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RADIUM EMANATIONS IN EXOPHTHALMIC GOITER—BLOOD VESSELS OF ADENOMAS OF THYROID*

WALLACE I. TERRY, M.D.
SAN FRANCISCO

The subjects which I desire to offer relate to the thyroid gland. There are many problems connected with goiter which are not yet settled, and if I can add anything to our existing knowledge I shall feel greatly repaid.

FURTHER REPORT ON THE USE OF RADIUM EMANATIONS IN EXOPHTHALMIC GOITER

In THE JOURNAL, a year ago,[1] I made a brief report on the use of radium emanations in the treatment of exophthalmic goiter, based on eleven cases. Since then twenty-two additional cases have been treated by my associates and myself at the University of California Hospital, making a total of thirty-three. Only patients suffering from an extreme degree of hyperthyroidism, due to hyperplasia of the thyroid—the true exophthalmic goiters—have been subjected to this form of treatment, and only with the idea of converting them into better risks for major surgical procedures.

We have endeavored to make the technic of introducing the bare tubes containing radium emanations within the substance of the thyroid gland as simple as intramuscular hypodermic injections. No elaborate skin preparation is made. The operation is done at the office or at the patient's bedside. A local anesthetic is used, and the patient is often permitted to go home within a few hours. For the local anesthetic we prefer to chill the skin at the sites selected with a small cotton sponge saturated with ethyl chlorid. Then the minute capillary tube containing the emanation is introduced into the gland by means of a small caliber, hollow needle, and is pushed into place by a plunger. Usually six emanation tubes, containing a total of from 6 to 10 millicuries, are inserted in the upper, middle and lower thirds of each lobe and through one skin puncture on each side. As the emanations act in all directions, we endeavor to bury the tubes at least half a centimeter in the thyroid, for pathologic changes extend at least that distance from the tube.

Dr. Edwin I. Bartlett has thus described the changes produced by the emanations:

> There is a small area 2 mm. across, pearly white in the center of which can be seen an emanation tube. Microscopically, the area shows for the most part fibrin, with here and there some shadows of old alveoli. Beyond this is a narrow zone of atrophic or degenerating thyroid and increase of connective tissue. Beyond this is compact thyroid tissue with undifferentiated cells, barely formed alveoli or completely formed alveoli. The alveoli are lined by cuboidal or low columnar epithelium, and contain little or no colloid. Many show desquamated cells. Beyond this the picture is that seen in hyperplasia.

This affected area approximates 1 cm. in diameter, but it is possible that a further zone is inactivated than is revealed by the microscope. It would at least seem that in certain of our cases the clinical effect has been more extensive than the pathologic picture would indicate.

Having had considerable experience in operating on goiters which had been treated with roentgen rays, we naturally feared that radium emanations might give rise to annoying adhesions between the thyroid and its surrounding structures, but we were pleased to find that no adhesions were present or that they were minute points where the needles had entered the gland. As the needles are only about 1 mm. in diameter, it is apparent that the adhesions would not be extensive, unless suppuration should follow, which is unlikely, as the tubes containing radium emanations are sterilized, as well as the needles, by boiling. As a matter of fact, the adhesions are less than are found after ligation of an artery.

I realize that radium emanation tubes are available in only a few cities in the United States, but they could be sent by mail or express for 400 or 500 miles. The tubes lose 16 per cent. of their strength each twenty-four hours, so that provision would have to be made to counterbalance the loss during transportation by charging them with sufficient emanations. The total effective action of the emanations in bare tubes is approximately thirty days.

Final results have been obtained in sixteen of the thirty-three cases in which radium emanations were received. Fourteen patients had resections of the thyroid after intervals varying from thirty-two to 114 days after radium. One patient died two days after a bilateral resection from acute hyperthyroidism. Another patient died nine months after resection of both lobes from recurring hyperplasia of the thyroid (substernal) and marked hyperplasia of the thymus and a terminal pneumonia. A third patient died three months after radium, from cirrhosis of the liver. A fourth patient died fifteen days after bilateral resection of the thyroid, from acute yellow atrophy of the liver.

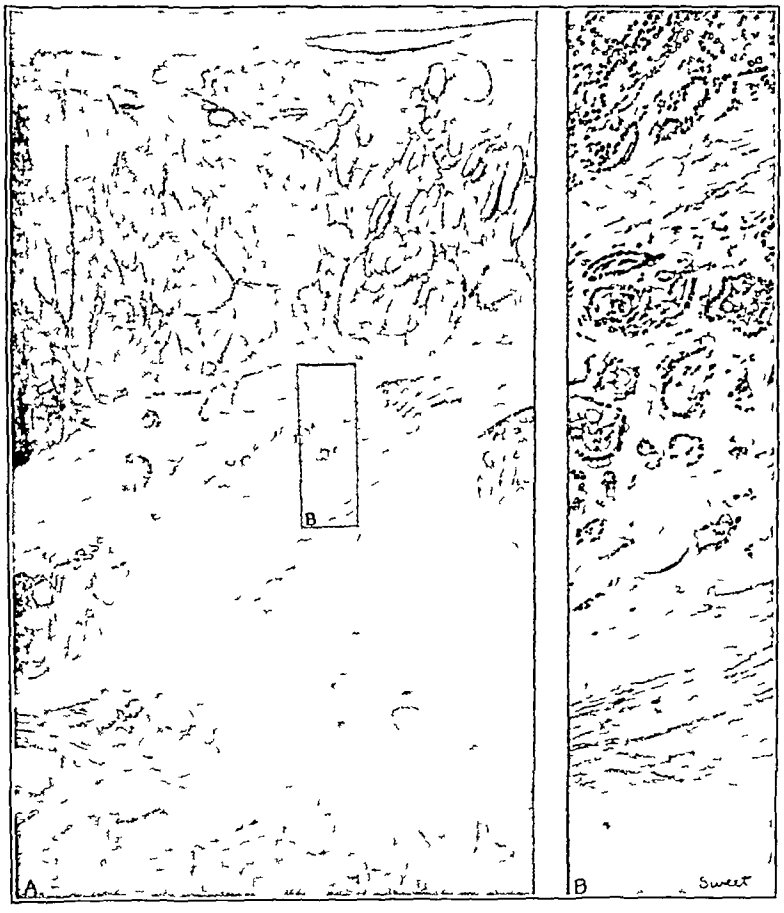
Ten patients are definitely cured after resection. Of these, one had diabetes mellitus, which has apparently disappeared since resection. Another had profound toxemia with jaundice at the time of entrance. She weighed but 67 pounds (31 kg.), and was consid-

* Chairman's address read before the Section on Surgery, General and Abdominal, at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Terry, W. I.: Radium Emanations in the Treatment of Goiter, J. A. M. A. 76: 1821 (June 25) 1921.

ered practically moribund Four tubes, containing 6 millicuries of radium, were put in the thyroid Four months later her weight was 92 pounds (42 kg), and she was considered a sufficiently good risk for resection of the thyroid Since that operation she has steadily gained in all respects Her weight is at her normal of 125 pounds (57 kg), and she is apparently entirely well except for a slight irregularity of the heart

In two cases there has been an apparent cure by radium alone In one the basal metabolic rate was 122 per cent plus before the introduction of eight tubes, containing 5 6 millicuries of radium emanations Two months later his basal metabolic rate was 27 5 per cent plus, and four months after radium it was



A hand lens sketch of radium reaction Center shows necrosis and edges undamaged hyperplastic thyroid Transition from complete necrosis to undamaged tissue is sharp *B* high power view of transitional area

12 9 per cent plus The other patient had a basal metabolic rate of 84 4 per cent plus before five tubes, containing 6 7 millicuries, of radium emanations were given Two months later his basal metabolic rate was 38 per cent plus, and four months after radium it was 5 7 per cent plus He is now working as a stevedore and teamster, and seems entirely recovered

We have not used radium emanations in the treatment of simple colloid goiters or for adenomatous goiters It might be worth a trial in the colloid and simple hypertrophic types, but I think it is distinctly contraindicated in the adenomas for the same reason that the roentgen ray should not be used, viz , the danger of producing atrophy of the thyroid gland proper and consequent hypothyroidism

The conclusions I am willing to draw from our work with radium emanations in goiter are

1 The tubes can be easily introduced into the thyroid gland under local anesthesia

2 The amount of emanations and the number of tubes should vary according to the size of the goiter and the intensity of the symptoms—from 4 to 10 millicuries, contained in from six to eight tubes

3 The emanations are of value in preparing bad risk cases of exophthalmic goiter for further surgical treatment

4 The emanations should not be used in adenomatous goiters

THE BLOOD VESSELS OF ADENOMAS OF THE THYROID

We know that hemorrhages are very likely to occur within adenomas of the thyroid Indeed, the majority of the larger adenomas when sectioned show gross evidence of degeneration, consequent upon hemorrhages within the capsules Such degenerations as calcification, fibrous masses and cysts are probably all the result of effused blood Sudden growth of adenomatous goiters can usually be explained by finding recent blood clots in the adenomas

As it is unusual to find such changes in colloid or hyperplastic goiters, it seemed probable that the explanation might be found through a study of the blood vessels and the blood supply of adenomas At my request, this work was undertaken by Dr G S Delamere, whose training in surgical pathology gave him the necessary qualifications When removing adenomas of the thyroid we took pains to ligate doubly the larger arteries and veins so that most of the blood would remain in the specimens Then the blood was washed out with physiologic sodium chlorid solution, and suspensions of India ink or bismuth subnitrate or camphor-acetone-celloidin mixture were injected into the vessels The technic of the various procedures will be published later, and need not be given here Some of the specimens were stereoscopically roentgenographed so that the vessels could easily be visualized, while others were digested, leaving only the vascular tree Microscopic examinations were made of all except the digested specimens

It was found that the capsular vessels of adenomas freely anastomose, and that many branches penetrate deeply into the substance of the adenomas from these capsular vessels Within the adenomas there is an extremely rich arterial supply, but without any apparent pattern formation The intracapsular vessels also show free anastomoses between them and in all portions of the tumor The vessel walls show certain peculiarities No adventitia as such can be definitely made out, the connective tissue stroma of the gland taking its place The musculature is the most variable element in the walls, occasionally in some of the larger vessels there is only a mere scrap remaining in one por-

The oldest patient examined was 66 years old, and the youngest, 4 More than 50 per cent of the tumors occurred in patients between 41 and 60 The duration of the symptoms ranged from five weeks to four years, the average duration was fourteen months (Table 1)

TABLE 1—AGE OF PATIENTS

Years	Number of Patients
Under 10	2
From 10 to 20	11
From 21 to 30	6
From 31 to 40	10
From 41 to 50	22
From 51 to 60	21
From 61 to 70	7
Total	79

The number of epithelomas and lymphosarcomas was about equal (Table 2)

TABLE 2—TYPES OF TUMORS

	Number of Cases
Epithelomas	34
Lymphosarcomas	33
Malignant (type not determined)	7
Pathologic examination not made	5
Total	79

Many patients with tumors of the nasopharynx do not come to the clinic because of nose or throat complaint, they are referred for a nasopharyngeal examination from the Section on Ophthalmology, Neurology or General Medicine, because of various symptoms

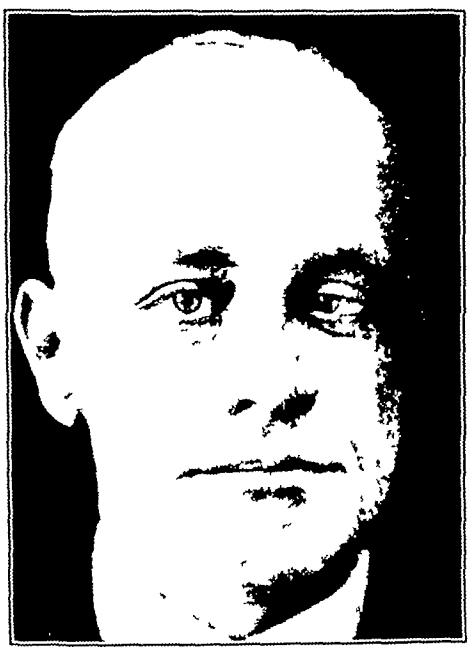


Fig 1 (Case A 321638)—Lymphosarcoma of the left nasopharynx involving the eustachian tube The external rectus had been paralyzed for eleven months A history was given of two years of pain and fullness in the ear The left antrum was irrigated the septum was operated on and tonsillectomy and paracenteses were performed

Often it is only after a careful examination that the tumors are found They are sometimes very small, they are situated laterally in Rosenmuller's fossa, and they usually involve one eustachian tube

The nasopharyngeal examination is made by means of the ordinary No 2 nasopharyngeal mirror Sometimes cocainization and drawing the palate forward by a retractor may be necessary in order to obtain a good view of the nasopharynx I believe the nasopharyngeal mirror gives a much better perspective than can be obtained by special nasopharyngoscopes

In the nasopharyngeal syndrome (Table 3), pain may simulate that in acute conditions of the ear and the patient may have been free from trouble until the acute condition arises The pain may be constant or recurrent, extending over the cheek, the mastoid region, and the frontal and temporal regions, or it may be in the eye It is especially *troublesome when* the patient lies down and is sometimes believed to be due to a tooth Many patients have their teeth removed in the hope of securing relief One patient complained of diplopia and severe frontal headache for six weeks Two patients complained of pain in the occipital region If the tumor involves the gasserian ganglion, the typical pain of trifacial neuralgia may occur and, later, anesthesia and numbness over the distribution of the fifth nerve A small epithelioma of the nasopharynx which had perforated the skull and invaded the ganglion was found in a patient who was referred to the clinic for operation on the ganglion for trifacial neuralgia Shelden[1] asserts that the symptoms and clinical signs of naso-

Fig 2 (Case A 337767)—Lymphosarcoma of the right nasopharynx. The earache started thirteen months before, followed by difficulty in opening the mouth The tonsils and adenoids were removed ten months before, and a mastoid operation was performed nine months before Tuberculous glands of the neck were operated on three months before

TABLE 3—SYMPTOMS

	Number of Cases
Referable to the eye	21
Referable to the ear	29
Referable to the nose and pharynx	38
Referable to the glands of the neck	51
Referable to the gasserian ganglion	4
Referable to the jugular foramen	2
Intracranial	11

pharyngeal tumors which have secondarily involved the gasserian ganglion are not distinguishable from symptoms and signs of tumors arising in the cranial cavity and involving the ganglion, and that nasopharyngeal tumors have produced this syndrome almost as often as tumors arising in the skull Many of these patients do not have pain they seek relief from enlarged glands of the neck, tinnitus and deafness, or double vision One patient came for keratosis on one side of the nose and, on routine examination of

1 Shelden W D Tumors Involving the Gasserian Ganglion, J A M A 77 700 705 (Aug 27) 1921

the nasopharynx, a lymphosarcoma was found in Rosenmuller's fossa It had not caused symptoms

Twenty-one of the seventy-nine patients had symptoms referable to the eye at the time of examination The most common complaint was diplopia, and in these cases the external rectus muscle was paralyzed Both sixth nerves may be affected and the upper eyelid ptosed A complete ophthalmoplegia with choked disk may be found, later, there may be optic atrophy

Fig 3 (Case A 305751) —Epithelioma of the right Rosenmuller s fossa involving the gasserian ganglion The eyelids were sewed together for a corneal ulcer There was a history of three years of pain in the right ear and face and an increasing deafness The patient was referred for gasserian ganglion operation

Twenty-nine of the seventy-nine patients complained of the ears, some of gradually increasing deafness with tinnitus or fulness of the ear The onset of this trouble may be acute and a paracentesis may be performed in an attempt to give relief This was done five times in one case of the series Many of the patients had ear treatments, one was treated for six months and had four paracenteses, without the cause of the trouble being discovered, and one had a mastoid operation because of the pain A discharging ear may be a part of the picture Deafness may be bilateral, if both tubes are involved

Only thirty-eight of the seventy-nine patients presented nasal or nasopharyngeal symptoms, such as bleeding or symptoms of nasal obstruction This is significant and it brings out a point that I made in previous papers[2] on this subject, many of these patients are symptomless from the standpoint of the nose and throat, and it is only by careful examination of patients who present part of the syndrome that the tumor is found The tumors do not present the syndrome usually associated with the nasopharynx, such as nasal obstruction, bulging of the palate, and so forth, but often are very small flat growths, situated laterally in Rosenmuller's fossa and involving one tube It is possible that a few tumors that were quite large at the time of the first examination may have originated in the sphenoid

Fifty-one of the seventy-nine patients had enlarged glands of the neck A microscopic diagnosis of endothelioma from the gland removed had been made elsewhere in three cases, in all probability owing to the fact that the primary epithelioma had not been found Metastasis to the glands of the neck is often bilateral, and in the lymphosarcoma group gives a clinical picture of Hodgkin's disease Three of our cases had been thus diagnosed elsewhere The involvement of the glands of the neck may be extensive, with a very small primary growth

Ankylosis of the lower jaw may occur from direct extension of the tumor to the pterygoid muscles Such a condition makes a nasopharyngeal examination more difficult, but when this complaint is associated with pain in the ear or around the head, the possibility of a nasopharyngeal tumor must be eliminated Some patients with this symptom had had their wisdom teeth removed, believing that they might be the cause of the complaint

It may be very difficult to differentiate intracranial and extracranial symptoms, as many of the nerves may be involved extracranially and give the same syndrome as would appear with primary intracranial neoplasm The only possible differentiating point is a unilateral choked disk, and this, of course, is not absolute The growth may penetrate or invade the sella turcica and simulate a pituitary tumor, as occurred in one of the cases reported in a previous paper[3]

The jugular foramen syndrome of Jackson was present in two cases In one case, the ninth, tenth, eleventh and twelfth cranial nerves and the sympathetic nerve were affected, as shown by paralysis of half of the palate, tongue, pharynx and larynx, and the sternocleidomastoid and trapezius muscles There were sensory changes in the pharynx and disturbances of taste over the posterior half of the tongue Enophthalmos, narrowing of the palpebral fissure, and small pupil indicated involvement of the sympathetic nerve In the other case, in which the jugular foramen syndrome was present, all of the cranial nerves on the side were affected except the first and the seventh

Besides the seventy-nine cases of nasopharyngeal tumors, there were four in which a tumor invaded the nasopharynx secondarily Bulging of the lateral wall of the nasopharynx was found, without ulceration One of these tumors presented the jugular foramen syndrome with involvement of the ninth, tenth eleventh and twelfth nerves, but the three others presented pictures similar to the intrinsic nasopharyngeal tumors

Fig 4 (Case A 377033) —Epithelioma of the left nasopharynx with orbital and cervical involvement complete ophthalmoplegia with ptosis of the left upper lid There was a history of two years of pain and deafness The glands of the left side of the neck had been removed fifteen months before

Eighteen of the fifty-one patients in whom the glands of the neck were involved had had operations on the neck without discovery of the primary tumor One patient had had five operations because of recurring involvement of the glands Twenty-three patients had had the tonsils removed after the onset of the com-

2 New G B The Relation of Nasopharyngeal Malignancy to Other Diagnosis Minnesota Med 4 419-422 (July) 1921 Two Unusual Nasopharyngeal Tumors Laryngoscope 32 99 102 1922

3 New G B Footnote 2 first reference

plaint, because of the enlarged glands of the neck, or in an attempt to relieve the head complaint Eighteen patients had had nasal operations to relieve the trouble, including operations on the septum, the antrum and the ethmoid and frontal sinuses Twelve patients had

Fig 5 (Case A 182860) —Lymphosarcoma of the nasopharynx with bilateral cervical involvement The previous diagnosis from a gland removed from the neck was Hodgkin s disease

had teeth removed, usually wisdom teeth, because of the pain One patient had had a mastoid operation In the seventy-nine cases, seventy-four operations were performed, including removal of teeth, in attempts to relieve the symptoms caused by the nasopharyngeal tumor This number does not include paracentesis, which was performed many times (Table 4)

TABLE 4 —OPERATIONS

	Number of Cases
Removal of tonsils and adenoids	24
Removal of glands of the neck	18
Removal of wisdom teeth	12
Intranasal	19
Mastoid	1
Total	74

Observations in these cases demonstrate that many nasopharyngeal tumors are overlooked This may be due to the fact that the patients consulted internists, neurologists, general surgeons or ophthalmologists, and an examination of the nose and throat was not made In most cases, however, the tumor had been overlooked because a careful nasopharyngeal examination had not been made by the laryngologist

The syndrome presented by these tumors is quite typical, and the finding of a small nasopharyngeal tumor will usually clear up the diagnosis in cases in which it had been previously impossible to account for certain symptoms and findings associated with the head (Figs 1-6)

ABSTRACT OF DISCUSSION

DR H W WOLTMAN, Rochester Minn Dr New recently called attention to the relation of malignant tumors of the nasopharynx to other diagnoses Of great importance is the fact that often these patients have no symptoms referable to the nasopharynx From the neurologic standpoint, these cases fall into four fairly well defined groups Pain referred to the side of the head, the ear or the face many times associated with annoying paresthesias, is common This type has been known in the literature as the neuralgic type Then follows the glossopharyngolaryngeal group, patients complaining of dysphagia or recurring attacks of aphonia Finally, there are the cases of mental disturbances, syncopal and epileptiform attacks, and symptoms due to malignant involvement of the distant parts of the nervous system I would like to emphasize the necessity of referring patients having unexplained cranial nerve palsies or symptoms suggesting gasserian ganglion tumor or pituitary tumor to a specialist for a careful examination of the nasopharynx

DR JOSEPH C BECK, Chicago I saw a case of retromaxillary tumor that later became a nasopharyngeal growth of a tuberculous nature in which the jacksonian syndrome was present with other complications The patient had otosclerosis with deafness and he developed a vertical nystagmus I have seen four cases of malignant nasopharyngeal disease in which for a long time the only evidence of involvement of the nasopharynx was a slight bleeding On examining the postnasal space I could not locate any bleeding point However by retracting the palate with a catheter and looking

Fig 6 (Case A 383900) —Epithelioma of the left nasopharynx involving the ninth tenth eleventh and twelfth cranial nerves and the sympathetic nerve (Jackson s syndrome) Enophthalmos small pupil and narrowing of palpebral fissure were noted with paralysis of the left side of the tongue and the sternocleidomastoid and trapezius muscles The left side of the palate and larynx were also paralyzed

directly into the region of the Rosenmüller fossa, I found the bleeding area from which the growth extended I think that while these are nasopharyngeal growths when they come to our attention they probably are retromaxillary tumors as described in Denker s work

DR GORDON B NEW, Rochester, Minn I was much interested in the case Dr Beck reported, but, as the group I am reporting were all malignant cases, it was not included Regarding the retromaxillary group, I have seen several cases with secondary involvement of the nasopharynx from retromaxillary malignancy I believe these are entirely different from those I mention in my paper The group I am reporting are primarily nasopharyngeal tumors and are usually in Rosenmuller's fossa I did not mention treatment because I felt that if I did I would get away from the question of diagnosis We have seen many of these patients who were treated with radium continue well for three or four years, and feel that it is the only treatment that offers relief When surgery has been attempted, most patients have been made worse

MONGOLIAN IDIOCY IN A CHINESE BOY *

I HARRISON TUMPEER, S M, M D
Associate Professor and Head of the Department of Pediatrics Post Graduate Hospital and Medical School Adjunct in Pediatrics Michael Reese Hospital
CHICAGO

The term "mongolian idiocy" is applied to a condition presented by certain children of retarded development manifesting peculiar mental and physical phenomena, the most remarkable of which is the resemblance to the Mongolian facies The mongolian idiot resembles the Mongolian in the oblique palpebral fissure, epicanthal fold, widely placed eyes, flat-bridged, snub nose and expanded ali nasi Brachycephaly is present in both, but the flattening of the occiput is characteristic of the idiot The mongolian idiot differs physically from the Mongolian in the squat hand with tapering fingers, short thumbs and short, incurvated little fingers, the second phalanx of which is shorter than the terminal His hair is not usually black, although it may be straight and is often wiry The face is broad, but it is moon shaped and has no prominent cheek bones He is small in stature and has broad, flat feet There is marked hypermobility of the joints There are chronic infections of the mucous membrane, with affections of the lids, lips, nose and throat The tongue is furrowed and fissured from constant motion It is described as "scrotal" by the French writers There is no blue spot The voice is guttural Changes in the sella turcica have recently been described by Timme [1] The mongolian idiot differs mentally from the Mongolian in his retarded development, marked restlessness and activity, mimicry and indifference to his surroundings In addition, the idiot manifests a fondness for music, exhibits a good sense of rhythm, is very amiable, has a good memory, and is usually contented Sutherland [2] happily states that the "smiling face of the mongolian imbecile suggests the possession of a secret source of joy"

From the time of Langdon Down,[3] who first described mongolian idiocy in 1866, until the present, the cases reported have belonged to the Caucasian race In 1903, Muir [4] concluded from his investigations that this peculiar form of retardation was a matter of the Caucasian race and summarized thus "Mongolism probably exists everywhere, and no white race is exempt"

The case described here illustrates that mongolian idiocy occurs in the Mongolian race, and the Mongolian features of mongolian idiocy are not masked by the Mongolian features of the Mongolian race Indeed, the family of the affected boy testified that "his eyes are more slitlike than those of the other children"

REPORT OF CASE

From the mother it was learned that the child was born at term No instruments were used, and there was no asphyxia The child was breast fed The first tooth appeared at 11 months The child crawled at 13 months, sat up at 14 months, and walked at 2½ years The other children of the family walked at 1 year The first word was spoken at 14 months, and distinct phrases were used at 4 years His speech was never so distinct nor so fluent as that of the other children It was always guttural in tone Nocturnal enuresis stopped at 5 or 6 years, but a tendency remained Later, it was learned that the child was delivered by Dr Effie Lobdell, who gave the information that the labor was *normal* At 6 months, she recognized the condition and prescribed thyroid extract combined with pituitary extract in 2-grain (0 13 gm) doses, three times daily This was continued at varying intervals for three years Dr Lobdell had noted the short, thick fingers and the constant drooling The child was taught to walk in a chair and was found to be very imitative.

Fig 1 —Appearance of patient

The mother stated that he had never had an acute illness, although the drooling and purulent nasal discharge were practically constant

The paternal grandparents died in China at 71 and 74 years of age The maternal grandparents were living in China The family was Cantonese The father was 66 years of age and the mother 38 They were not related to each other All the children were born in the United States There were nine pregnancies There are no other retarded children in the immediate or remote family, and there are no cases of supernumerary digits, such as are sometimes found

In response to a question as to whether they had noted anything peculiar about the boy, his mother and a cousin a

* From the Pediatric Clinic of the Post Graduate Hospital and Medical School

1 Timme Walter The Mongolian Idiot A Preliminary Note on the Sella Turcica Finding Arch Neurol & Psychiat 5 568 (May) 1921
2 Sutherland Lancet 1 23 1900
3 Down Langdon London Hosp Rep 1866 p 259
4 Muir Arch Pedrat 20 161 (March) 1903

student at the university, volunteered that his eyes were more slitlike than those of the other children, his tongue was larger, and his head was flatter, the other Chinese children of the neighborhood as well as his own brothers and sisters knew that he was different His mother also stated that he was always happy, gave her no trouble, and did not even care if his playthings were taken from him

Examination revealed a moon-faced boy, who looked as if his face had been pushed in (Fig 1) His mouth hung

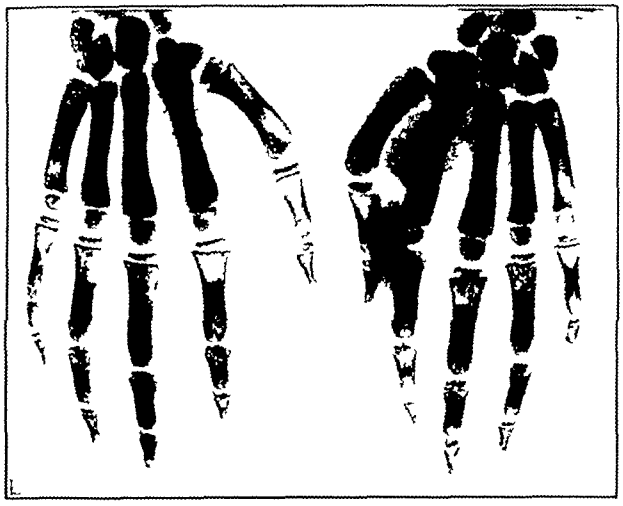


Fig 2—Appearance of hands incurvated little finger shortening of second phalanx of little finger, and normal centers of ossification

open, and a mucopurulent discharge issued from his nostrils The lobules of the ear were adherent, and the bridge of the nose was flattened The eyes were widely spaced, and there was a marked epicanthal fold The teeth were irregular, and many were decayed The pupils reacted to light and accommodation, and were equal The tongue was of the typical "scrotal" variety The tonsils were large and irregular, and the throat was congested There were signs of blepharitis The chest and abdomen were not remarkable There were no signs of the congenital heart lesions which are often described The prepuce was long, and the left testicle was not in the scrotum The reflexes were all active There was marked hypotonia, with hypermobility of the joints, so that the most bizarre attitudes were adopted with ease He assumed the uterine position on lying down The hands were squat, the fingers tapered, the thumbs were stubby, the little fingers were incurvated and did not reach the terminal phalangeal joints of the adjacent fingers There was general adenopathy The scapulae were moderately scaphoid There was no blue spot

The weight was 46½ pounds (21 kg) height, 122 5 cm sitting height, 68 3 cm , occipitofrontal circumferences, 46 6 cm , the anteroposterior diameter, 15 4 cm , biparietal diameter, 14 cm , the arm span 116 5 cm , the interacromial diameter, 26 cm , the intercristal diameter, 19 cm , the chest circumference, 55 cm, and the abdominal circumference 55 cm

Ophthalmoscopic examination revealed no cataract There was marked myopia

The pulse rate was 88, blood pressure, 96 systolic, 70 diastolic

An electrocardiogram revealed a sinus arrythmia a P R interval of 0 14 second, and slight notching of RIII

The basal metabolism with a Tissot apparatus was 9 per cent below the usual, which lies within the normal limits

The Wassermann test on the blood was negative as determined by two different laboratories

Roentgen-ray examination revealed that the second phalanx of the little finger was shorter than the third This finger curved inward (Fig 2) There was also a marked inward curve of the phalanges of the big toe The sella turcica was flattened, and there was a shadow under the anterior clinoid process (Fig 3) There was some separation of the sutures in the vertex of the skull and there were digital impressions, particularly in the frontal region

The mental age of the child was 3 years and 4 months by the Stanford revision of the Binet-Simon scale

CONCLUSIONS

1 This Mongolian child was a mongolian idiot in the generic sense of the word, as proved by the typical findings of the oblique palpebral fissture, epicanthal fold, flattened bridge, widely placed eyes, "pushed in" face, flattened occiput, scrotal tongue, guttural voice, squat hands, Telford Smith[5] finger, stub thumbs, hypotonia, excavation of the sella turcica and other less characteristic findings, such as chronic nasopharyngeal infection, undescended testicle and inward bowing of the phalanges of the great toe There was further proof in the characteristic mental phenomena of restlessness, amiability, mimicry, good memory and mental retardation

2 The most recent finding in mongolian idiocy is here confirmed In twenty-three of his twenty-four cases, Timme found an excavation under the anterior clinoid process and presumably under the olivary process and the optic groove It communicated with the anterior portion of the fossa itself He suggests that this change may explain the stature and lack of sexual development

3 This case speaks against the theory of exhaustion of the generative organs as the etiology of mongolian idiocy, since there were normal children born before and after the patient If the idea of exhaustion be even remotely entertained in this instance, it must be ascribed to the paternal element and not the usually condemned maternal element, since the father was 57 and the mother 29 at the birth of the boy

Fig 3—Appearance of skull shadow communicating with anterior portion of fossa of sella turcica

4 The fact that the basal metabolism rate was not significantly lowered confirms the view that this condition is not primarily, at least, a thyroid hypofunction, and should not therefore be confounded with myxedema This may also explain why striking improvement of these cases by thyroid feeding is not observed

5 Smith Telford Pediatrics 2 315 1892

5 The term idiocy is inaccurate because the mental age reached by those affected is nearly always from 3 to 7 years The condition is more properly mongolian imbecility

25 East Washington Street

CONGENITAL MALFORMATION OF THE HEART

WITH COMPLETE OBLITERATION OF THE PULMONARY ARTERY *

O J RAEDER, M D
PARIS, FRANCE

The question of cardiac malformation is one of those questions supported by contradictory theories which frequently enliven and stimulate productive discussion in what would otherwise be sterile sessions in certain medical research gatherings And so anomalies of the heart have furnished controversial subject matter since the time of Meckel and Cruveilhier

REPORT OF CASE

Baby D, born at term, Nov 20, 1920, with high forceps delivery on account of inertia uteri, died, November 28 The mother, a primipara aged about 40, and father, aged about 45, were in good health The Wassermann test was not made and no history of syphilis was given

The child did not breathe regularly The circulation at times was fairly good, though the color was never a bright baby-pink One hour after birth, the infant became very cyanotic and the breathing was bad Mustard baths and

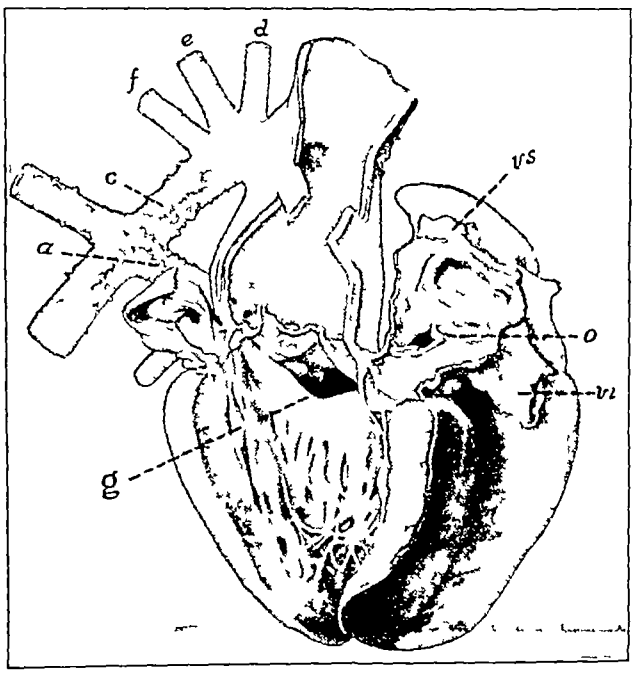


Fig 1—Left side of heart *a* pulmonary artery *c* ductus arteriosus *g* interventricular defect *o* foramen ovale partly covered by membrane

oxygen were administered with prompt result The breathing and color was always much better when the infant was held in the vertical position, whereas if it was held horizontally, there was a more or less marked tendency to cyanosis

On the second day, the child was put to the breast, and though it attempted to nurse on two occasions it did not have sufficient strength It was fed artificially with mother's milk during six days The bowels functioned fairly regularly, with evacuation during the first few days of large quantities of meconium

The temperature was 35 2 C (95 4 F) one hour after birth and ranged between 36 and 38 6 (96 8 and 101 4 F) until the day before death, when it again dropped to 35 4 C (95 8 F) Just before death it was normal

Fig 2—Origin of pulmonary artery in epicardium *a* small button *b* ductus arteriosus *b* tear in ductus arteriosus *d e f* brachiocephalic trunks *m n* branches of pulmonary artery *r* aorta

The infant died on the ninth day, with fairly good color under administration of oxygen, of cardiac failure

Necropsy Report—Abdominal section revealed nothing worthy of note, either from the point of view of pathology or teratologically The pleural cavities were normal The lungs showed no morphologic changes There was hypostatic congestion to a moderate degree, more marked on the left

The pericardial sac contained a slight amount of clear light straw-colored fluid The heart measurements were base to apex, 4 2 cm, breadth, 3 5 cm, thickness, 2 7 cm, left ventricle, wall, from 3 to 4 5 mm, right ventricle, wall, from 2 5 to 3 mm. (hypertrophied), mitral valve, from 26 to 27 mm, aortic valve, 25 mm, tricuspid valve, 35 mm, pulmonary artery origin, 6 mm, left branch, 10 mm, right branch, 9 mm, ductus arteriosus, 11 mm, foramen ovale (diameter), 4 to 5 mm

The aorta was larger than normal The pulmonary artery was very small, tapering down toward its origin from the right ventricle here its wall was thinner and showed a tendency to collapse slightly, like a vein The muscle was firm, the right ventricle hypertrophied On section, the left ventricle opened into the large aorta There was communication with the right ventricle by means of an opening in the interventricular septum There was no outlet from the right ventricle except into the left ventricle at the mouth of the aorta, which was displaced to the right so that its orifice almost straddled the interventricular septum The mitral and tricuspid valves showed small nodules, some of them dark colored, probably the remains of a fetal endocarditis

The aorta was supplied with three efficient valve cusps, the coronary orifices normally placed behind them The arch

* From the obstetric service of Dr Bouffe de St Blaise whom I wish to thank for his kind permission to study this case

of the aorta gave source to a single large branch, which immediately divided into four branches of approximately even caliber The first of these was probably slightly the largest It formed the ductus arteriosus, which was patent and communicated directly with the pulmonary artery, joining the latter at its division in such a manner as to form a cross, the ductus continuing onward, as it were, to form the right pulmonary artery (Fig 1) The three other branches formed the arterial trunks which usually spring directly from the aortic arch

The pulmonary artery from its origin to the point of communication with the ductus arteriosus was small and funnel-shaped, with the apex of the cone in the epicardium of the right ventricular wall When one attempted to pass air by means of a small pipet inserted deeply into this rudimentary vessel, which was patent down to the level of the origin, the bubbles of air always escaped by the ductus arteriosus or by the branches of the pulmonary artery it was impossible to communicate with the right ventricle

SUMMARY

The following anomalies of the heart and vessel trunks were observed

1 Complete obliteration of the pulmonary artery at its origin from the right ventricle
2 Perforation of the interventricular septum
3 Patent ductus arteriosus which functioned from birth until death
4 Hypertrophy of the right ventricle
5 Open foramen ovale
6 Anomaly of the aortic arch and its branches
7 Dilatation of the aorta and displacement of its origin to a position almost directly over the malformed interventricular septum
8 Distinct evidence of a probable fetal endocarditis

COMMENT

At a glance, it is evident that this case does not readily fall into the category of the "tetralogy of Fallot",[1] it more readily fits into the trilogy of Fallot, which is characterized by (*a*) narrowing or total obliteration of the pulmonary artery, (*b*) interventricular communication and (*c*) patent foramen ovale, with, of course, a persistent functioning ductus arteriosus In the present case, there is in addition an unusual abnormality of the arch of the aorta which might furnish material for an interesting study of the embryology of the branchial arches

In discussing the etiology of cardiac anomalies, Prospert,[2] in a recent study of six interesting cases in which necropsy was performed, states that direct heredity as an etiologic factor is very rare Fournier, thirty years ago, laid stress on the role of syphilis as a causal influence Marfan likewise considers syphilis the determining factor in the majority of cases As stated by Prospert,[2] the Wassermann reaction is no criterion here on account of its inconstancy in the newborn According to statistics, in from 60 to 90 per cent of infants with stigmas of syphilis, tests are negative

As mentioned above, opinion has ever been divided between the embryogenic theory formulated by Meckel and the inflammatory theory of Cruveilhier and Lancereaux, the latter of whom went so far as to say, "The teratology of the heart is simply its pathology during uterine life" Apert[3] takes a decided stand against the theory of inflammation Professor Letulle, on the other hand, has persistently emphasized the occurrence of chronic endocarditis in these cases, only recently, he has reopened the question by the report of a case[4] of chronic cardiac inflammation of a very advanced degree, involving the musculature as well as the endocardium Also Professor Vaquez of Paris, even now, staunchly defends the inflammatory theory

Ballantyne[5] says "The heart is almost as perfectly developed at the beginning of the second month of pregnancy as it is a few days before birth therefore, it is extremely difficult to understand how endocarditis supervening between these two dates can produce malformations which are evidently arrests of formative processes anterior to the first of these dates" He quotes Moussons,[6] who makes a nice observation when he says "Malformation predisposes to disease" Laubry and Pezzi,[7] voice the same idea in still more emphatic fashion when they say that pulmonary stenosis with interventricular communication, which is one of the common forms of congenital heart disease, requires an inflammatory process of short duration, springing up always just at that critical few days' period during which the heart is undergoing the development of these parts, namely, the seventh week of embryonic life

In the present case, there is definite evidence of a probable fetal endocarditis (small nodules on the valve cusps of the tricuspid valve) This would seem to lend argument to the theory of fetal inflammation However, the presence of the anisopsia (the right eye was larger than the left), not to mention the curious branching of the vessels of the aortic arch, points with a more reasoning finger to the embryogenic theory The advanced age of the mother is another factor in favor of the latter theory, since it is known from statistics that anomalies are more common in the offspring of primiparous women of an advanced childbearing age

American Hospital

1 Fallot quoted by Prospert E These de Paris No 434 1921
2 Prospert E Contribution a l etude et diagnostic des maladies du cœur These de Paris No 434 1921
3 Apert E Les affections congenitales du cœur Nourrisson 8 347 (Nov)1920
4 Letulle cited by Laubry and Pezzi Traite des maladies con genitales du cœur Paris 1921
5 Ballantyne J W Antenatal Pathology and Hygiene Foetus Edinburgh 1902 p 370
6 Moussons in Granchers Traite des maladies de l enfance 3 601 1897
7 Laubry and Pezzi Traite des maladies congenitales du cœur Paris 1921 p 56

THE DIAGNOSTIC VALUE OF BLOOD FIBRIN DETERMINATIONS

WITH SPECIAL REFERENCE TO DISEASE OF THE LIVER *

JAMES S McLESTER, M D
BIRMINGHAM, ALA

Fibrin, in marked contrast to the other proteins of the blood, varies widely in amount Persons may differ as to the fibrin content of their blood, but for the same person in health the amount is always essentially the same On the other hand, in disease, according to the nature of the morbid process, fibrin values vary to a marked degree

This very labile blood protein is found only in the plasma—not in the cells Its source has been variously stated by investigators to be the intestinal wall, the bone marrow, or the liver Whipple has demonstrated in animals that the production of fibrin is stimulated by slight liver injury, while it is depressed by extensive injury He has reason to believe that this protein is being constantly used up in the body, and his experi-

* Read before the Section on Practice of Medicine at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

ments point to the liver as the sole source of supply One is tempted, therefore, to believe that, when disease of this organ is suspected, a knowledge of the amount of blood fibrin may be of diagnostic value

Since, however, the methods of estimation used in the past either required too much blood or were inaccurate, our knowledge today of the fibrin content of human blood is meager The only comprehensive clinical observations on blood fibrin which I can find are those recently reported by Gram of Copenhagen Certain details of the method devised by him and used in his experiments would lead one to question its absolute accuracy Nevertheless, I have been interested to find how closely his figures tally with mine

A new method which seems to meet the requirements of accuracy and which demands less than 10 c c of blood has just been devised by Foster and Whipple It is readily adaptable to clinical use Briefly the method is this Two c c of oxalated plasma is permitted to clot in a large quantity of physiologic sodium chlorid solution containing a calcium salt The clot, after being thoroughly washed, is dried in a crucible, which is then weighed, ignited, and reweighed The difference in the two weighings tells the amount of fibrin All determinations are made in duplicate

I wish to report a series of observations made by this method on the plasma fibrin of fifteen normal persons and 100 patients, of whom eleven had definite disease of the liver Since the character of one's food seems to influence the amount of his blood fibrin, all specimens for these determinations were obtained before breakfast The figures given are for 100 c c of plasma

For the fifteen normal persons, the fibrin values are nearly alike, varying only from 272 mg to 385 mg, with an average of 333 mg Roughly speaking, normal limits for plasma fibrin seem to be 250 mg and 400 mg

Inflammation and other tissue injury as observed in animals powerfully stimulates fibrinogen production Foster and Whipple call attention to the fact that bacteria play no direct part in this stimulation, since a sterile turpentine abscess is just as effective in increasing blood fibrin as an abscess of bacterial origin Twenty of my patients were acutely ill of various forms of sepsis The plasma fibrin of all of these was increased, varying from 624 mg to 1,120 mg, with an average of 829 mg Four convalescent patients gave lower values, averaging 540 mg, and it is evident that just as soon, for instance, as drainage of an abscess is established the fibrin begins to fall

Related to those with septic inflammatory processes were eight patients with pneumonia The plasma fibrin of these was even more uniformly increased, varying from 726 mg to 1,447 mg, with an average of 1,069 mg Influenzal bronchopneumonia and lobar pneumonia behaved alike as regards fibrinogen stimulation

Since the extent of tissue injury rather than the nature of the infection determines the degree of fibrinogen stimulation, we would expect to find increased fibrin in tuberculosis Such has proved to be the case Among four patients with tuberculous peritonitis, without obvious liver injury, the increased plasma fibrin varied from 621 mg to 938 mg, with an average of 766 mg Three additional patients with pulmonary tuberculosis gave similar figures

In two instances of acute epidemic (lethargic) encephalitis and one of tuberculous meningitis, the plasma fibrin was only a little above normal

One wonders whether the greatly increased fibrin found in the one patient with tetanus—978 mg—could be attributed to increased muscle strain

Two patients with diabetes mellitus and three with peptic ulcer, representing diseases with limited tissue injury, gave only slightly increased fibrin values

The impression was gained that conditions of extreme debility are liable to be accompanied by low plasma fibrin This was exemplified particularly by one case of hookworm infection and another of grave anemia of unknown origin

Two instances of extensive sarcoma were, in spite of the resulting anemia and debility, accompanied by moderately increased fibrin, which leads one to surmise that malignant cell proliferation is a cause of increased fibrinogen production

Four patients with so-called essential hypertension and one with grave uremia showed slightly increased fibrin, averaging 441 mg

Of the heart patients, six with myocardial incompetence, and two with acute endocarditis, all gave moderately elevated figures Others with well compensated myocardial degeneration showed a smaller amount of fibrin

There were three patients with leukemia, two of the myeloid and one of the lymphatic type Two of these patients, presenting both types, had abnormally low fibrin content, 189 mg and 240 mg, while the fibrin of the other was within normal limits It is noteworthy that the two with reduced plasma fibrin content had extensive involvement of the liver, as was evidenced by enlargement One of these was treated by radiotherapy, and, coincident with the improvement in the general health and decrease in the size of the liver, there was increase of the plasma fibrin

There were eleven patients with evident disease of the liver, not including the two with leukemia, of whom I have just spoken Three of these had portal cirrhosis with ascites, and gave moderately low fibrin values, ranging from 222 mg to 373 mg with an average of 301 mg One of these cirrhosis patients also had tuberculous peritonitis, a disease which is usually accompanied by an increase of plasma fibrin, and I think it fair to assume that liver cirrhosis prevented this expected increase Another patient with cirrhosis and ascites had an extremely large liver Unlike those with small livers, his plasma was increased, being 448 mg

The lowest fibrin of the entire series was found in a patient who at necropsy showed extensive tuberculous destruction of the liver He had only 133 mg of fibrin in 100 c c of plasma Here again we assume that the destruction of liver parenchyma prevented the fibrin increase seen in other tuberculous processes

A patient with a freely draining small abscess of the liver, and another with old well-treated syphilis of the liver, both showed increased fibrin, 616 mg and 643 mg

There were four patients with clinical evidence of cancer of the liver The fibrin of three of these varied from 205 mg to 494 mg, with an average of 389 The fourth patient had an enormous liver, sensitive to pressure, which on histologic examination proved to be carcinomatous The very high plasma fibrin found in this last case—1,212 mg and 1,386 mg (two determinations)—was in keeping with the size of the liver, and one is tempted to conclude that prolific growth of tumor cells in the liver, to a certain point at least, stimulates rapid fibrinogen production

SUMMARY

1 The fibrin of normal persons varies approximately from 250 to 400 mg in 100 c c of plasma The same person in health always presents fairly constant values

2 Greatly increased plasma fibrin is seen in all inflammatory tissue reactions of whatever nature

3 Moderately increased fibrin is seen in many other diseases

4 Stimulation of liver parenchyma by inflammation or by tumor growth, or otherwise, seemed to cause increased production of fibrin

5 Great destruction of liver parenchyma decreases fibrin production, the more complete the liver destruction, the lower the blood fibrin

CONCLUSION

Blood fibrin is a very labile body which in its wide fluctuations reflects the nature of the patient's disease It is not unreasonable to expect that further study leading to a more intimate knowledge of the laws which govern fibrinogen production will ultimately give information of direct clinical value

930 South Twentieth Street

PROGRESS IN THE HANDLING OF CHRONIC PEPTIC ULCER

WILLIAM J MAYO, M D
ROCHESTER, MINN

The internist and the surgeon are still far apart in their estimation of the necessity for the surgical treatment of peptic ulcer and of the value of such treatment, but the lines of divergence are converging They are now quite generally agreed that, other things being equal, all patients with chronic mechanical obstruction and those who suffer from repeated hemorrhages or evidences of acute or chronic perforation should be treated surgically They agree also that in all other types of the disease the patient should have as careful medical treatment as circumstances will permit until cure or chronicity is established It goes without saying that recent ulcers should be treated medically The surgeon sees patients whom medical treatment has failed to cure permanently, and he is, perhaps, less enthusiastic in his prognosis under such treatment than the internist who has relieved patients, greatly to their comfort and enthusiasm Patients the internist fails to relieve slip quietly into other hands and later may come to operation Not infrequently the surgeon sees patients who have been "cured" by a number of internists, as they in good faith believe On the other hand, the internist sees a considerable number of patients who have so completely failed to obtain relief from surgical treatment as to give him a healthy suspicion of its value

The natural history of the development of peptic ulcer is interesting The patient suffering from ulcer has spells of more or less severe symptoms, followed with treatment or without treatment, by periods of marked relief, lasting perhaps for months or years Gradually, however, the periods of improvement diminish, and the exacerbations become more frequent and prolonged, until permanent crippling is manifest The amount of disability depends on the location, depth and attachment of the ulcer, factors which greatly influence the severity of symptoms, especially as they relate to pain and interference with nutrition It is sometimes a little difficult for the uninitiated to see the difference between the spontaneous improvement which is a definite feature of the natural course of the disease and the improvement brought about by medical treatment However, any fair-minded observer will admit readily that careful medical management usually results in great improvement and amelioration of the symptoms, and that, if such management can be continued, the improvement may be prolonged, and even become permanent

THE FINANCIAL QUESTION

The successful medical management of peptic ulcer presupposes the hospitalization of the patient for a number of weeks under a regimen which, in order to be successful, must be rigid and prolonged, and carried on by the patient afterward Unfortunately, only a small number of patients with peptic ulcer are financially able to make a pet of an ulcer More than 90 per cent of those coming to us are wage earners who cannot afford the time and care that are necessary for medical cure At more or less frequent intervals, their wage earning capacity has been interfered with seriously by undernutrition, pain, and disability Their diet cannot be controlled, as their social condition compels them to eat such food as they are able to obtain and pay for To prescribe a specific diet for a laboring man working for wages on a farm or in a factory, or even for one in his own home under present day household conditions, is about as reasonable as advice given in the past to a poor man with tuberculosis, and with a family to support, "go to Colorado or Arizona and do nothing for two years" As a result of these practical considerations, prolonged medical treatment of peptic ulcer is out of the question for the large majority of patients Nearly all such patients have been treated medically, but, under existing circumstances, ineffectually They have little desire to undertake further medical treatment and readily accept surgery Only the minority are willing and financially able to submit to proper medical management That medical treatment, under most favorable circumstances, often fails to cure permanently, must be conceded by even the most enthusiastic advocates Enough has been said to indicate that patients with peptic ulcer cannot be treated as a group Each case must be considered individually, and, when it is reasonably possible, careful medical management of the ulcer should be given a thorough trial before operation is recommended Following operation, the after-care of the patient should be conducted by the internist Possibly educational propaganda may be instituted for the benefit of the patient with peptic ulcer, as has been done for the patient with diabetes

In connection with our care of these patients, we are establishing a diet kitchen, where they will be taught how to prepare their food properly and how to live

RESULTS OF TREATMENT

It is not necessarily the fault of the internist that medical treatment fails so often He knows that in many cases nonsurgical treatment has not had a fair chance The sins of the internist are omissions, those of the surgeon, commissions, shortcomings in the surgical field are more disastrous to the patient

To express it in the form of an Hibernicism, the most frequent cause of surgical failure in such cases is to operate for peptic ulcer when there is no ulcer The patient may have been treated medically for a long time without cure Prolonged medical treatment is sometimes accepted by the surgeon, in his innocent respect for the previous diagnosis, as one of the indications for operation, and an unnecessary gastro-enterostomy is performed, which leads surgery into disrepute At the Mayo Clinic we have removed several hundred unnecessary gastro-enterostomies that had been made in good faith and bad judgment, fourteen of them were our own early cases Such instances are solace to the medical man who holds them up as evidence of the failure of surgery to cure peptic ulcer instead of failure to cure a wrong diagnosis

Another occasional cause of dissatisfaction with the surgical treatment of chronic peptic ulcer is the curious obsession, apparently common to the patient, his medical adviser, and his surgeon, that if the first operation is not successful, surgery has shot its only arrow We have recognized the fact that medical treatment may be repeated, but we have been slow to see that surgical operation may be repeated, provided it has a definite object It has been shown that in more than 90 per cent of duodenal ulcers and more than 80 per cent of gastric ulcers satisfactory results are obtained by single operations Some of these ulcers, however, have deep craters, and when these involve the pancreas, with fixation of the gastric or duodenal wall, pain may continue or hemorrhages may recur If 90 per cent of patients with duodenal ulcers get well without excision of the ulcer, shall the entire 100 per cent be subjected to radical operation, with increased risk, in order to protect the 10 per cent from secondary operation? Increasing experience enables one to prognosticate, with a fair degree of accuracy, which of the ulcers of the duodenum should be excised at the primary operation The practice of excising certain types of duodenal ulcers and of combining the excision with the excellent pyloroplasty of Finney is becoming more and more prevalent

The preponderance of males over females with duodenal ulcer is perhaps partly due to anatomic reasons In the female, the first portion of the duodenum is more nearly transverse than in the male, so that the alkaline juices of the bile and the pancreatic secretion more or less constantly bathe the upper duodenum In the average male, the first portion of the duodenum, as a rule, passes upward, and then the second portion to the common duct descends, so that the first inch and a half of the duodenum is not so readily alkalized Perhaps one of the great merits of the Finney pyloroplasty is the change in mechanical conditions, that is, the duodenum is drawn down and sutured to the greater curvature of the stomach at the pyloric end, thus permitting not only ready emptying of the stomach, but also alkalization of the former ulcer area Recurrence of an ulcer after a Finney operation is rare However, the ease and safety of gastro-enterostomy, and the fact that it deals with sound tissues, give it great advantages over the pyloroplasty which must be done in edematous adherent scar tissues at the site of the ulcer

When gastrojejunal or jejunal ulcer occurs following gastro-enterostomy, the Finney type of operation presents great advantages Merely to excise the gastrojejunal or jejunal ulcer is to invite recurrence We find it wise to separate the gastro-enterostomy completely, close the jejunal and gastric openings, and make a Finney pyloroplasty As new ulcers may occur in the vicinity of the gastro-enterostomy in about 1 or 2 per cent of cases, the Finney operation is a valuable reserve method Closure of the pylorus, pyloric occlusion, or operations of that character, which have been shown to be wholly unnecessary, are unwise if for no other reason than because in the 1 or 2 per cent of cases in which separation of the gastro-enterostomy and a pyloroplasty becomes necessary, the pyloric procedure is more or less hampered by a previous pyloric closure or occlusion Unnecessary pyloric tinkering originated in the attempt to make gastro-enterostomy relieve disability not due to ulcer, for example, to force a tardy prolapsed stomach to empty more quickly through an unnecessary gastro-enterostomy, in the hope of relieving neurasthenia and gastric neurosis There are two causes of failure of surgery to relieve patients suffering from peptic ulcer (1) functional disturbances due to subsequent faulty dietary conditions, which the internist can relieve, and (2) mechanical disturbances due to faulty surgical methods which can be relieved by secondary surgical procedures

It was not until the surgeon penetrated the abdomen and actually saw the pathologic condition in the form of peptic ulcer that the present understanding of it was reached Previous to this development of surgery, 96 per cent of peptic ulcers were believed to be in the stomach As a matter of fact, only about 25 per cent are so situated Ulcer was believed to be a disease much more common in females than in males; in reality, the incidence is but little over 25 per cent in women It was believed that patients with ulcer suffered pain immediately after eating, we now know that temporary relief follows eating It was believed that hemorrhage was often a sign of peptic ulcer, we now know that it occurs in less than 25 per cent of cases The greater number of sudden hemorrhages from the stomach which are not preceded and followed by the ordinary symptoms of ulcer are not caused by ulcer but by superficial erosions of the gastric mucous membrane due to toxic hepatitis, the result of focal infection often originating in the appendix, gallbladder, teeth, tonsils, and so forth

Roentgenograms, correctly interpreted have been extraordinarily valuable in the diagnosis of peptic ulcer A roentgen-ray specialist attached to a medical clinic has little opportunity to perfect himself in the interpretation of shadows of gastric and duodenal ulcer Skill is acquired only by directly comparing the plate with the actual condition as disclosed at operation Every roentgenogram of the abdomen is capable of enlightening or of misleading interpretation Plates honestly but incorrectly interpreted, purporting to show certain conditions, are constantly being submitted The value of the roentgen ray in the diagnosis of gastric and duodenal lesions is measured, not by artistic success, but by the skill and experience of the interpreter In the year ending June 30, 1921, Carman and his associates diagnosed by the roentgen ray 523 cases of duodenal ulcer, in which operation was performed, the diagnosis was confirmed in 500 (95 6 per cent) cases During the same period, roentgen-ray diagnosis of gastric ulcer in 125 cases was confirmed at operation in 122 (97 6 per cent), eight of the ulcers, however, proved to be malignant In the same period, eight cases were diagnosed gastrojejunal ulcer, of which six

(75 per cent) were confirmed at operation Besides these, 7,868 cases were diagnosed as negative for duodenal, gastric, or gastrojejunal ulcer Exploration was performed in 631, and the absence of ulcer was verified in 587 (93 1 per cent)

Double ulcer, gastric and duodenal, has been found in about 6 per cent of the cases seen at the Mayo Clinic Several patients with duodenal ulcer were relieved temporarily by gastro enterostomy, and on return of symptoms were found to have gastric ulcer I have observed three such cases Perhaps the gastric ulcer did not follow the gastro-enterostomy but was present and overlooked at the time of operation A surgeon operates on a patient and finds an obvious duodenal ulcer with obstruction, the type that gastro-enterostomy is almost certain to cure, and promptly performs a gastro-enterostomy If the condition of the patient is none too good, the examination of the stomach may be cursory, and the gastric ulcer may be overlooked Such instances at least bring up the fact that the results of gastro-enterostomy alone in cases of gastric ulcer are satisfactory in only about 60 per cent of cases Excision of the ulcer, preferably by cautery, is essential to the best results

The greater number of duodenal ulcers are entirely different pathologically from gastric ulcers Chronic gastric ulcers always have craters, the majority of duodenal ulcers do not have craters, and, therefore, often are not recognized at necropsy Gastric ulcers are the callous type, and penetrate all coats of the stomach to the peritoneum In the duodenum ulcers are usually erosions, little fissures or cracks extend through to the muscular coat and peritoneum, giving the appearance of erosion as by a file, the significance of which may be missed by an observer who bases his idea of duodenal ulcer on his knowledge of the appearance of gastric ulcer Only the minority of duodenal ulcers have true craters, and such as occur are usually on the posterior wall of the duodenum

MALIGNANT DEGENERATION OF PEPTIC ULCERS

In five cases of carcinoma of the upper duodenum which came under my observation, four of the tumors were so closely connected with the pancreas or common duct that I could not determine that they were primary in the duodenum The practice of excising duodenal ulcer to obviate a liability to cancer has not a sound foundation I have, however, seen a few cases of gastric cancer in which a duodenal ulcer extended to the pylorus Whether there was causal relation between the gastric margin of such an ulcer and cancer is open to discussion

My experience coincides with that of surgeons the world over, and leads to the belief that cancer of the stomach rather often originates in ulcer of the stomach or perhaps from the same causes as those that produced the ulcer Unless the ulcer is excised, it cannot be determined whether or not its margin is cancerous A specimen of tissue removed from the base of the ulcer may not show the carcinoma if it exists only in the margin

Balfour [1] has demonstrated the ease and safety of the cautery in operations for ulcers of the stomach, and as a preventive against overlooked carcinoma on the margin of an ulcer it has been of the greatest value The heat not only destroys the ulcer but also sterilizes the nuclei of the malignant cells at a distance, by selective effect, so that, following this procedure, recurrence of carcinoma has been extraordinarily reduced, as compared with that following knife excisions

Putting aside evidence derived from operating room experience, which might be influenced by the character of the lesions to be resected, I wish to call attention to some valuable collateral evidence Von Eiselsberg, studying the material at the Vienna Hospital, in reference to the ultimate results of the surgical treatment of gastric and duodenal ulcers, showed that of forty-one deaths at dates remote from operation thirteen were known to be from cancer of the stomach But, since only twenty-three postmortems were held, it is readily seen that the thirteen known cases of carcinoma of the stomach were not representative of the total group of forty-one but of the group of twenty-three It should be remembered also that von Eiselsberg's cases were both of gastric and of duodenal ulcers, that ulcers exist in a ratio of three duodenal to one gastric, and that duodenal ulcers do not have a tendency to become cancerous The statistics of Joslin [2] of the Massachusetts General Hospital, showing that 24 per cent of the late deaths following gastric and duodenal ulcers were from cancer of the stomach, are pertinent Again, it may be noted that duodenal and gastric ulcers were grouped together, and probably only one-fourth could be considered gastric ulcers and, therefore, as having a cancer liability

Standard life insurance companies were anxious to know whether or not patients who had been operated on for gastric and duodenal ulcers were insurable Mr Hunter, actuary of the New York Life Insurance Company, with his staff, investigated 2,323 cases at the Mayo Clinic in which operations had been performed for gastric and duodenal ulcers The results proved that the death rate in cases of duodenal ulcer, in the five years following operation, was no higher than the average for the same age and condition in the insurable risks as shown by the life insurance mortuary tables, while the rate in the gastric ulcer group was three times that of the normal risk In 1914, Wilson [3] summarized the results of a study of resected tissue containing the primary carcinomatous lesion in 399 cases of gastric cancer seen at the Mayo Clinic, nineteen (4 8 per cent) showed ulcers with doubtful cancer in the border Photomicrographs from five of the nineteen cases had been shown before the Association of American Physicians in 1909, when they were considered by the members who examined the slides to be benign ulcer Three of the five patients died of cancer in the next five years

SUMMARY

1 Duodenal ulcer is treated satisfactorily by surgery in approximately 95 per cent of cases, although in 1 or 2 per cent of these a second operation may be required The ulcer is not associated with cancer liability

2 The average operative mortality in cases of duodenal ulcer, including the acute and chronic cases, is under 2 per cent from all causes, and, as the part of the duodenum usually involved is merely the vestibule of the small intestine, permanent interference with function is slight

1 Balfour, D C The Use of the Actual Cautery in Treating Benign Lesions of the Stomach and Duodenum, Surg Clin N America 1 1233 1240 (Oct) 1921

2 Joslin, E P End Results in Cases of Gastric and Duodenal Ulcer J A M A 63 1836 1839 (Nov 21) 1914

3 Wilson L B and McDowell I E A Further Report of the Pathologic Evidence of the Relationship of Gastric Ulcer and Gastric Carcinoma Am J M Sc 148 796 816 1914

3 In cases of gastric ulcer, satisfactory results are obtained by one operation in more than 85 per cent In the remaining cases, a secondary operation, preferably resection, which eliminates, to a great extent, future ulcer possibilities, brings the surgically satisfactory group of gastric ulcers well above 90 per cent, but there is a definite cancer liability in the years to follow

4 The average mortality in the operative treatment of cases of gastric ulcer, including the acute and chronic cases, is about 3 5 per cent The stomach has important functions to perform and a certain amount of permanent crippling may result

5 In about 50 per cent of the patients who fail to obtain satisfactory relief, the difficulty is functional and can be relieved by medical management The other 50 per cent must be classified as surgical failures due to faulty mechanics, and will require secondary corrective surgical procedures for relief

6 The patients' general condition must be considered and rational habits of living established The elimination of all sources of focal infection is also an essential measure

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RELATIVE VALUE OF SURGICAL AND MEDICAL TREATMENT OF GASTRIC AND DUODENAL ULCER*

ARTHUR DEAN BEVAN, M D
CHICAGO

During the last ten years or more I have had the opportunity of making, with my medical colleagues at the Presbyterian Hospital, a combined study from both the medical and surgical points of view of the subject of peptic ulcer I believe that we have approached this matter with open minds and have attempted, in this clinical research, first, to establish the relationship between the clinical picture and the pathologic anatomy, and, secondly, to determine the value of both the medical and the surgical treatment and the indications for each During this period of ten years, of course, similar researches have been made in a large number of clinics, both in this country and abroad, notably by workers in the Mayo Clinic at Rochester, by the Leeds group in England, headed by Moynihan, by von Eiselsberg and his assistants, Haberer and Clairmont, and by Schmieden, who was formerly with Bier and who now has a chair of surgery at the new university at Frankfort, and, of course, my many others

ETIOLOGY OF PEPTIC ULCER

I shall attempt to summarize briefly the results of my experience with this problem In the first place, I think it might be well to discuss the present status of our knowledge of the etiology of peptic ulcer Peptic ulcer is a lesion in the causation of which a number of factors play an important part, but, of course, that is true of almost all lesions Take, for instance, such a simple lesion as a furuncle on the back of a man's neck I have for years taught my students that here we had at least three causative factors, and I have expressed the matter by the algebraic equation X + Y + Z = furuncle In this equation X is the essential germ cause, usually *Staphylococcus aureus,* Y is the small abrasion produced usually by a rough collar, which furnishes the atrium of infection, Z is the general lowered resistance of the individual that permits of the growth of the organisms in his tissues These three factors combined produce the resulting boil

I think peptic ulcer is a more complicated condition than the simple boil and that we have at least three, and probably more, factors in its causation If we expressed these in terms of the same algebraic formula, we would have X + Y + Z = peptic ulcer I am rather inclined to consider the X in this equation as the gastric juice with its power of digesting devitalized tissue I place this first because it is the characteristic factor of peptic ulcer Peptic ulcer does not occur in the absence of gastric juice Y is an area of lowered local resistance, resulting usually from some injury or lesion of the blood vessels of the mucous membrane, interfering with the blood supply of a small area of tissue and so lowering its vitality that the gastric juice can destroy and digest it Z is again the lowered general resisting power of the individual, which, I believe, in this case presents probably a rather complex picture, as this lowered resisting power may be due to a number of quite different causes

First, anemia is undoubtedly one of the conditions lowering the resisting power of the patient General poor nutrition is an important factor This was well demonstrated during the last war when the hunger blockade of the central European countries was followed by an enormous increase in peptic ulcer, due to the lack of proper food and to the ingestion often of food that was difficult to digest Another factor which lowers the resistance of the individual and plays an important part in the production of peptic ulcer is increased nervousness of the patient Nervous strain (worry) is recognized by many investigators as being one of the important factors in the development of peptic ulcer This may produce its effects in several ways, increasing possibly the high acid content of the gastric juice and possibly producing pyloric spasms or possibly lowered resistance against the action of gastric juice by impairment of proper nerve function, although the last suggestions are, of course, purely theoretical I believe we can safely say that all these factors—the X + Y + Z, which I have described—play important parts in the production of peptic ulcer

There has been of late years a good deal of investigation directed toward demonstrating that focal infections, such as infected teeth and tonsils, an infected appendix or an infected gallbladder, may cause peptic ulcer by producing hematogenous septic infarcts of areas of the mucous membrane of the stomach Rosenow has particularly called our attention to this point There can be no doubt that infections occur in which we have the picture of an acute ulcer of the stomach or duodenum which results from a hematogenous infection or septic embolism of a vessel of the mucous membrane of the stomach and duodenum, from a focus of infection, such as the tonsils or teeth, or from an extensive area of skin infection following a burn My own impression is that these acute cases usually heal promptly or if they are very serious they may result fatally, but I believe that they are not the ordinary common cause of the cases of peptic ulcer of the stomach and duodenum which we see clinically, and that the infection from pus organisms plays a minor role in the causation and the persistence of peptic ulcer

* *Read before the joint meeting of the Section on Surgery General and Abdominal and the Section on Gastro Enterology and Proctology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922*

SYMPTOMS

My conception of the symptoms of peptic ulcer, especially the essential and common symptom of stomach distress, I shall present very briefly The sensations experienced by the patient with peptic ulcer may be described as sensations of discomfort or distress, or of actual pain We surgeons who operate today, very frequently under local anesthesia, on abdominal viscera recognize the fact that we can handle the stomach and duodenum with little or no distress to the patient We can sew the stomach and intestines together as in a gastro-enterostomy without any sensation We can burn off the end of the stomach or duodenum with a cautery without causing any sensation, and we sometimes wonder why an ulcer in the duodenum or in the stomach produces pain and how it produces pain We know that if in performing an operation under local anesthesia we pull on the viscera we can produce very great pain We know too that in the abdominal cavity the most common cause of pain is distention of some viscus, as is clearly shown in the great pain resulting from obstruction of the cystic duct in gallstone colic, or the great pain resulting from obstruction of the ureter in kidney stone colic, or the great pain resulting from the obstruction of the bowel in ileus In these cases we can quite clearly see and can demonstrate experimentally and clinically that it is the intravisceral tension which produces the pain We know too that tissues that are the site of an inflammatory process are much more painful than the normal tissues in the abdominal cavity

Pain, as I have studied it in peptic ulcer, occurs under three conditions first, when there is an intravisceral tension due to the distention of the stomach or the bowel with gas and food, and associated often with obstruction or a spasm preventing the normal emptying of these viscera, secondly, when there is irritation caused by the gastric juice on the raw surface of the ulcer, the so-called chemical pain, and thirdly, when there is lighting up of an acute inflammatory process in and about the ulcer itself This sort of pain is liable to produce a picture in a patient with duodenal ulcer resembling very closely that of a gallstone attack I have been able to unravel a number of cases in which because the character of the pain so closely simulated gallstone colic we had made that clinical diagnosis before operation and in which at operation I have found no lesion of the gallbladder but an inflamed and often a penetrating ulcer, usually either in the duodenum or in the stomach, and close to the lesser curvature

Personally, I can understand quite well stomach and duodenal pain which results from intravisceral tension and pain which results from an acute inflammatory process developing in and about the ulcer In the light of the fact that we can crush a part of the stomach or the duodenum or cut it off or destroy it with a cautery without producing any sensations to the patient, it is difficult for us to understand how gastric juice poured over the raw surface of an ulcer can produce pain, unless we accept the proposition that in this pathologic condition of ulcer the tissues are more sensitive than under normal conditions This I consider is the fair and logical explanation of the facts I am quite willing to accept the generally accepted belief that the ordinary pain of peptic ulcer is due to pouring over the raw surface acid gastric juice with a high free hydrochloric acid content and I believe we are compelled to accept this point of view by the results [illegible] constantly observe of the neutralizing [illegible] chloric acid with alkalis, with the resu[illegible] and disappearance of the pain Howeve[illegible] that intravisceral tension plays a definite [illegible] part in the distress and pain of peptic ulc[illegible] in almost all painful conditions of the ab[illegible] viscera I believe that this phase of peptic ulcer deserves special study and that when this problem is solved we will have learned that here, as in almost all painful abdominal lesions, intravisceral tension plays an essential part

HEALING OF PEPTIC ULCER

In regard to the healing of these ulcers, I want to draw a parallel, as I have done in my own study, between the ordinary varicose ulcer of the leg and peptic ulcer We can study the healing process of a varicose ulcer and watch the process directly under our eye from day to day First, let me again suggest the algebraic equation $X + Y + Z =$ varicose ulcer In this algebraic equation the X, the essential and characteristic factor in the etiology, is the obstruction of the return circulation, Y is usually some slight traumatism of the skin This slight injury becomes the starting point of an ulcer, sometimes of considerable size Instead of healing, the tissues about the injury break down and the ulcer grows in size Z is the general resisting power of the individual again and this is modified by poor nutrition, poor hygienic surroundings, hard work and general constitutional disease If one makes a culture of the secretions of the varicose ulcer he will have no difficulty in demonstrating pus organisms of various kinds and often saprophytic organisms I believe, however, that these organisms do not play an important part, either in the production of the ulcer or in preventing wound healing Of course, at times, a varicose ulcer becomes acutely infected and inflamed I would draw, therefore, a close parallel between the varicose ulcer and the peptic ulcer as far as pus organisms are concerned, that is, they are present in both, they are, however, as a rule simply an incident and they may occasionally be the cause of lighting up of an acute infection, but they are not the essential cause of the ulcer

Now let us examine the natural history and the wound healing of a varicose ulcer I believe I can speak on this subject with some authority since I have watched carefully a large number of these cases Keeping in mind the X and Y and Z which equal varicose ulcer, if we place the patient at absolute rest in bed in a recumbent position and elevate the affected leg we do away for the time being with the X, the most essential factor in the production and maintenance of varicose ulcer, that is, the interference with the return circulation If we do only this, without attempting to do anything else, as a rule in a very limited period (from ten days to two weeks or more) the ordinary varicose ulcer will heal In the healing process the bacteria which are on the surface gradually disappear and granulations become healthier, and with the complete epidermization of the ulcer the bacteria disappear entirely If the general condition of the patient is bad, if the patient is anemic, run-down from any cause or undernourished, improved hygiene, better food, fresh air, cleanliness and attention to proper elimination are important in improving the general condition of the patient Under this improved general condition, wound healing is more rapid

? there is a combined condition, such as varicose ulcer plus syphilis, antispecific treatment is of very definite value In other words, the history of a leg ulcer is that when we remove the essential cause and contributing causes and place the patient and the part involved in the best possible condition for healing, especially when we remove the essential cause—the interference with the return circulation—wound healing, as a rule, occurs promptly

There are, however, some exceptions to this rule The old time surgeons recognized perfectly well the existence of some of these old leg ulcers of a certain type which they called "callous ulcers" If you examine one of these you will find a rim of very dense scar tissue around the ulcer, and in the crater-like depression of the ulcer itself In these callous ulcers, wound healing is very slow and sometimes almost impossible to obtain with the ordinary elevation of the limb, rest and improved general condition of the patient, which is in varicose ulcer of the ordinary type so efficient Old time surgeons understood this problem very well and in order to heal one of these ulcers they would dissect out the hard indurated callous margin of the ulcer and the base of the ulcer itself, then place the patient in a recumbent position and treat the ulcer as the varicose ulcer of the ordinary type and obtain in this way wound healing

There is a third type which one might mention in continuing this parallel between the varicose and peptic ulcer, and that is the old chronic ulcer in which such great changes have occurred at the site of the ulcer that the tissues have apparently lost their power of repair, and not infrequently in these cases we must resort to dissecting out the ulcer and employing either skin grafting or covering the area with a flap by some plastic operation

I should like now to ask you to keep in mind this picture of varicose ulcer as I have drawn it and apply it to the study of peptic ulcer I am thoroughly satisfied that very much the same thing happens in the ulcer in the interior of the stomach and duodenum that happens in the ulcer of the leg If we can place a peptic ulcer under conditions in which we eliminate, as we can do in a varicose ulcer, the essential causes which produce and maintain the ulcer, we can in the vast majority of cases succeed in producing wound healing on the interior of the stomach and duodenum just as we can on the external integument In order to do this it is clear that we must place the patient at rest in bed and we must place the stomach and duodenum at rest as much as possible There is no doubt in my mind but that rest in bed is very desirable, certainly for several weeks Local rest of the stomach and duodenum are obtained by removing food traumas and by the blandest possible diet This, of course, is the practical method which we employ in clinical work

We can demonstrate absolutely the value of rest in the healing of these peptic ulcers by the results which can be obtained from the operation known as jejunostomy If, for instance, under local anesthesia, we pick up the first part of the jejunum and introduce a small rubber tube into the intestine, performing the operation with good technic so as to prevent any leakage and resulting peritonitis, and if we keep this tube in the jejunum for a number of weeks, or even months, and put nothing of any kind in the stomach but feed the patient entirely through this jejunostomy tube, we, in this way, of course, place the stomach and duodenum at absolute rest and we can cure almost any of the peptic ulcers in the stomach or duodenum in this manner That has been demonstrated now in a number of cases I think we should keep this in mind as a very definite illustration of the importance of rest in the management and the healing of peptic ulcers

In the next place, and most essential, is the neutralizing of the acid of the gastric juice so as to prevent the irritating digestive effects of the gastric juice on the raw ulcer surface We must place the patient, handicapped as he is by being in bed, under the best possible hygienic conditions as far as food, fresh air, nursing and massage are concerned to improve his general condition In the large majority of peptic ulcers, rest of the patient in bed, rest of the stomach and duodenum, neutralization of the gastric juice and improvement of the general condition of the patient will result, in the course of some weeks, or possibly several months, in a complete healing of the ulcer There are, however, *very definite exceptions to this rule I believe there is* no doubt that old callous ulcers of the stomach and duodenum are often very refractory, just as are old callous ulcers of the leg, to this rest treatment, and when the ulcer is situated so as to impair seriously the functions of the stomach and duodenum, as at, or near, the pylorus, producing obstruction and deformity, complete wound healing cannot, as a rule, be obtained by medical management alone

I desire by the rather rough outline which I have drawn to present to you the conception that both the ulcer of the leg and the ulcer of the stomach and duodenum are the result of a number of causative factors, that when we recognize these factors we are then in a position to apply this knowledge in a practical way to the cure of the disease, and that the cure depends on the recognition of the principle that if we eliminate altogether or in large part the causative factors we can, as a rule, place the patient and the local lesion in a condition in which wound healing can go on to completion and we can cure the disease Although we can cure the great majority of peptic ulcers by medical management on the principles which I have outlined, there remains a considerable number of cases, just as in ulcers of the leg, in which we must resort to something more than medical management, namely, to surgical treatment of one kind or another

We can cure a varicose ulcer of the leg by proper treatment We can cure a peptic ulcer by proper treatment We want to remember, however, that the ulcer in either case may recur, that it may recur at the original site or a new ulcer may develop, and that this is liable to happen unless we take pains to eliminate, to some degree at least, the causes which produced the ulcer in the first instance

In the case of the varicose ulcer the important factor of interference with return circulation can be remedied often by wearing a proper bandage or by a surgical operation, removing a segment of the veins and breaking the long column of blood In the case of the peptic ulcer, if we are to prevent recurrence, which is unfortunately common, we must, by proper attention to diet and the general condition of the patient, eliminate the acidity and food traumas, the nervous tension and the bad general conditions which were responsible for the ulcer in the first instance The person who has been cured of a peptic ulcer must know that the price of a permanent cure is eternal vigilance, and this

is true whether the cure has resulted from medical management or surgical operation

SURGICAL TREATMENT

Now let us turn to the surgical treatment of peptic ulcer Surgical treatment includes operations for perforation, for pyloric obstruction for hour-glass stomach and operations performed for the actual removal—the resection—of the ulcer It includes also gastro-enterostomy and jejunostomy There can be no question, of course, about the necessity and great value of the surgical treatment for perforation and for cicatricial and unyielding pyloric obstruction and for hour-glass stomach in which the deformity produces symptoms All internists and surgeons agree that these conditions demand surgical treatment

What can surgery do to cure chronic peptic ulcer of the duodenum and stomach

1 The ulcer may be excised by one of several methods and the patient cured by an operation which carries a certain amount of risk, which varies enormously with the skill and experience of the operating surgeon

2 Ninety per cent of ulcers of the duodenum and 50 per cent, or more, of ulcers of the stomach may be cured by gastro-enterostomy, which again carries a certain amount of risk, probably less than 2 per cent in skilled hands, with an associated risk of developing a jejunal ulcer in 3 per cent, or more, of the cases

How does gastro-enterostomy cure an ulcer in the stomach and duodenum? This has been answered in several ways Patterson believes that the important factor in the cure is the neutralization of the acid gastric juice by the alkaline bile and pancreatic juice which results from their pouring into the stomach through the new opening Admitting that there is probably some truth in this theory, I believe that the value of a gastro-enterostomy is in the safety valve action of the new opening, the relief of tension Let us apply this conception to a gastro-enterostomy performed for a duodunal ulcer, in which the prospects of cure are, I believe, 90 per cent I visualize the result in this way As soon as the gastro-enterostomy is performed, spasm of the pylorus prevents the gastric contents from passing into the duodenum, and, as a result, the gastric juice and food take the course of least resistance and pass out through the new opening The duodenal ulcer is thus put at rest, is protected from the irritating actions of the gastric contents and wound healing proceeds rapidly and the ulcer heals As soon as the ulcer heals, or possibly even when it begins to heal and becomes covered with healthy granulations, the pyloric spasm ceases, in whole or in part, and the gastric contents begin to take the normal course through the pylorus In my mind, one of the reasons for the marked relief which follows gastro-enterostomy is probably the relief from intragastric tension which the gastro-enterostomy affords In the case of the cure of a gastric ulcer produced by a gastro-enterostomy, I believe relief from gastric tension, the freer emptying of the stomach and the neutralization of the gastric juice by the bile and pancreatic juice furnish the logical explanation

I have already referred to the cure of peptic ulcer by jejunostomy Here the explanation is very definite The ulcer, whether in the stomach or duodenum, is at once placed at rest by feeding the patient through the jejunal tube and healing usually progresses rapidly The operation is, however, in spite of its efficiency, not a very practical method of treatment and should be reserved as a preliminary procedure in seriously handicapped patients In one case, by a jejunostomy I was able to save the life of a man who had at the time of the operation but 17 per cent hemoglobin

What can be said of the operations for excising peptic ulcers? This can be accomplished either by an oval or wedge-shaped excision, when the conditions permit, or by transverse resection of the stomach or by what is now being tried rather extensively, a resection of the stomach and duodenum by the Billroth II and the Billroth I operations The excision of the ulcer seems the ideal treatment The risk, however, is considerable It is the operation of choice when it can be performed without great risk and without resulting deformity A new chapter is being written at this time in stomach surgery by the men who are performing the extensive resections of the duodenum and stomach, which are termed the first and second Billroth methods These operations have proved, in the hands of a few expert surgeons surprisingly successful Moynihan, Haberer, Clairmont, Eiselsberg and Schmieden have reported series of fifty or more cases, with from 1 to 2 per cent mortality I have been much impressed with the value of the Billroth II excision for ulcer and am trying it out in a series of cases, especially in cases of callous ulcers in which the possibility of carcinoma must be considered

The Billroth excision accomplishes definitely three things (1) It removes the ulcer (2) It removes the pylorus and the element of pylorospasm (3) By removing a considerable amount of the secreting area of the stomach, it diminishes the free hydrochloric acid content of the gastric juice, and finally it removes, with the ulcer area, a possibly existing or a potential carcinoma

MANAGEMENT OF PEPTIC ULCER

Now that we have reviewed the essential principles of this subject, let us ask ourselves how we shall apply this knowledge to actual practice, let us say in a hundred ulcer cases? I believe that we can make this matter simpler and clearer if we answer the question With our knowledge of this subject, how would you and I like to have an ulcer of the stomach or duodenum treated? After all, this is the real test If I had a peptic ulcer, uncomplicated by any of the conditions which, we all agree, demand surgical treatment, perforation, pyloric obstruction from scar, etc, I should want it treated by a scheme of sound medical management and would place myself in the hands of my colleagues, Sippy or one of his disciples, because I believe that he has worked out the best method so far devised I believe that my chances of cure would be from 80 to 90 per cent, and that I could keep well if I took reasonable care of myself I would recognize the fact that there was a certain definite risk of recurrence How large this is is difficult to state in figures

If I had had repeated hemorrhages and the evidence showed the ulcer was probably in the duodenum, I should want to be operated on by one of my good surgical colleagues who had devoted special attention to this subject and I should want a gastro-enterostomy performed If in the course of the disease persistent pyloric obstruction developed I should want a gastro-enterostomy performed If in spite of good medical management, I was not completely cured and symp-

toms recurred on slight provocation, I should want a gastro-enterostomy performed If in spite of good ulcer management, the symptoms persisted I should want to be handled as a carcinoma suspect and be given the benefit of an exploratory operation If at the operation a callous ulcer was found on the stomach side of the pylorus, I should want the benefit of a second Billroth operation If I had an operation for ulcer, either a gastro-enterostomy or a resection, I should want to be given medical ulcer management as a part of the after-care for the purpose of reducing to a minimum the chances of a jejunal ulcer

If I attempt to put the question of the medical and surgical treatment of ulcer in figures, I should do so in about this way Almost all ulcers in their early history should be treated medically When they persist under good medical management, when they recur in spite of good medical management and the care which the patient can obtain in his or her peculiar station of life, when serious and repeated hemorrhages occur, when pyloric obstruction does not yield to good medical management, when there is a reasonable suspicion of malignancy, in all of these cases medical management should not be too long persisted in but should give way to exploration and surgical therapy as the safer plan and the plan which affords the better prospect of cure Numerically, I believe that these cases demanding surgical treatment for their best interests would constitute about 10 per cent of the ulcers of the chronic type

To visualize this a little more clearly, let us take 100 cases of peptic ulcer Practically all of these should be given at first the benefit of sound medical management Possibly ninety of these patients may be cured and kept well by medical management Probably 10 per cent of these cases, after repeated trials of medical management, will prove refractory and should then be given the benefit of exploratory operation and surgical therapy I have no sympathy for the position taken by some surgeons that ulcer of the stomach and duodenum are conditions like gallstone disease that are to be relieved by surgical operations Nor have I any sympathy with the position taken by some gastro-enterologists, that all ulcer cases must be treated medically and that surgical therapy should be put off as long as possible and be regarded simply as a last resort To my mind, the great value of medical management has been clearly shown, especially by Dr Sippy and his disciples They have shown that peptic ulcer can be cured by medical management and that the great majority of patients can be so cured

On the other hand, no more brilliant chapter has been written in the history of surgery than the chapter on gastric and duodenal ulcers We owe to our surgical colleagues most of the knowledge that we have of gastric and duodenal ulcers, the knowledge which we have obtained by the autopsies in vivo which we have made in the last twenty years Twenty years ago, we hardly knew that there was such a thing as a duodenal ulcer The surgeons furnished us with the knowledge of its existence and its frequency The surgeons made mistakes in the development of this subject They performed too many gastro-enterostomies They placed too little value on medical management

But in spite of mistakes, great progress has been made and today we can say with much confidence that in the cases of ulcer which prove refractory to medical management, modern surgery offers much to these patients The ideal situation is the joint treatment of these cases by internist and surgeon, who realize the field of usefulness and the limitation of both the medical and surgical management and who give to their patients the benefit of their combined judgment and the treatment demanded in each individual case

122 South Michigan Avenue

RELATIVE VALUE OF MEDICAL AND SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER*

BERTRAM W SIPPY, M D
CHICAGO

The relative value of medical and surgical treatment of peptic ulcer and the indications for each are dependent on a number of factors Among these, three stand foremost The first factor has to do with the conditions and complications that attend the ulcer The second involves a careful consideration of the character of the surgical treatment to which the patient is to be subjected Herein, the skill of the surgeon who is to perform the operation is of the utmost importance, since it influences enormously the immediate mortality and, to a lesser degree, the late bad effects of the operative treatment of the disease The third pertains to the straightforwardness with which the type of medical treatment employed combats or removes the conditions that retard or prevent healing and thus contributes to the eradication of the ulcer and its complications

Careful analysis of these three factors should more frequently serve as a basis for choice of method to be employed Proper analysis of the first factor necessitates an accurate study of the case for the purpose of revealing the conditions and complications that attend the ulcer If one knows what to look for and how to go about it, prolonged study of the case is seldom required for an exceedingly trustworthy investigation relative to the presence of ulcer and such important conditions and complications as may attend it Then the question so often contemplated in the improper form Should peptic ulcer be treated surgically or medically? becomes one easier of solution in this form Should this particular ulcer, with the recognizable conditions and complications that attend it, be treated surgically or medically or by combining both methods?

Obviously, the best answer to such a question cannot be given without a thorough and unbiased understanding of what may be done by each of these procedures to relieve the symptoms of distress and eradicate the disease Then the discomforts, probability of cure and, last, but not least, the mortality that is likely to attend the adoption of such surgical or medical measures as are to be applied to that particular patient must be carefully weighed in the balance before proper choice of procedure can be made

SURGICAL TREATMENT OF PEPTIC ULCER

The surgical treatment of ulcer and its complications incorporates two methods of attack The method that has been, and still is, the most widely used leaves the

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ulcerated area virtually unchanged at the time of the operation, but employs measures that tend to remove complications and distress symptoms and to bring about conditions that contribute to the healing of the ulcer Gastro-enterostomy for pyloric obstructive ulcer is the most common and, when successful, the most effective procedure representing this method of attack

The other method makes a direct attack on the ulcer and attempts to reduce it in size or to remove it The two methods of attack are combined, under certain conditions It is to be understood that in proportion to the number of cases of peptic ulcer treated surgically, relatively few ulcers have been removed directly by operative procedure Inaccessibility, due to location, adhesions or other unfavorable conditions, not infrequently render removal of the ulcer impossible In those cases in which the ulcer-bearing area has been accessible, the mortality attending excision and resection has heretofore very generally caused the surgeon to hesitate to employ either of these two surgical procedures as a substitute for, or in addition to, gastro-enterostomy

Within recent years, there has been a growing tendency among the most skilful surgeons to adopt the direct method of attack, employing such measures as excision of the ulcer with knife or cautery, reducing it in size by cautery or suture, resecting that portion of the duodenum or stomach containing the ulcer and incorporating a removal of the ulcer in pyloroplastic operations In the surgical treatment of gastric ulcer, a tendency to remove more and more of the stomach is apparent Partial gastrectomy is being performed and advocated by some of the experts as the ideal toward which surgical skill should be directed Sir Berkeley Moynihan has published articles portraying the failures and bad results following excision of ulcer alone or combined with gastro-enterostomy and reports a death rate of 4 7 per cent following partial gastrectomy in his service A symposium on the end-results of the surgical treatment of gastric and duodenal ulcer, in which several exceptionally well trained experts in gastric surgery participated, was held in Washington this month The mortality resulting from surgical treatment contained in these reports ranged from 6 to 8 per cent It is probable that an exceedingly few, exceptionally eminent supersurgeons are able to quote figures indicating a lower mortality A death rate of one for every thirteen to twenty patients operated on in the services of such men as those reporting at the Washington conference is a matter for thoughtful consideration, when contemplating the relative value of surgical and medical treatment of peptic ulcer

When one considers that the vast majority of all patients with peptic ulcer treated surgically are operated on by men of much inferior training—men who when challenged to operate by having a case referred to them, attempt to imitate the technic of the expert surgeon—one can readily understand that the mortality that attends the surgical treatment of ulcer must range from 1 to 100 per cent, depending on the skill of the operator In many instances, the medical practitioner referring the case has watched the skilful surgeons at the noted clinics, listened to their addresses, read their articles and has become convinced that the operative treatment of peptic ulcer is relatively easy, and that the results justify the risk involved Thereupon, being confronted by a patient afflicted with peptic ulcer, he sends the patient to a surgeon of local reputation who has operated and strives to imitate men who, through years of unusual training and experience, have acquired a low mortality

It is during this striving and never arriving period of the surgeon's development that the mortality of the surgical treatment of peptic ulcer is likely to be high Unless human nature changes, the development of the so-called system of group practice is likely to warp the judgment of many medical practitioners in favor of the surgeons of their particular groups

With the exception of certain types of resection and pyloroplastic operations, nearly all of the operative procedures are performed in conjunction with gastro-enterostomy It is recognized that jejunal ulcer following gastro-enterostomy becomes manifest clinically in 2 or 3 per cent of the patients who survive the operation It is improbable that this percentage even approximates the total number that develop and either heal spontaneously or persist without symptoms Similar to the nonobstructive type of ulcer, a jejunal ulcer is likely to be latent unless it penetrates to, or through the peritoneal coat or erodes a large blood vessel, thus causing hemorrhage sufficient to attract attention Aside from the development of jejunal ulcer, the late bad effects of well conducted operative procedures for peptic ulcer are seldom of serious moment

Brilliant as are the results of surgical treatment when applied to such cases of peptic ulcer as clearly require the services of the surgeon, sufficient evidence may be found upon thoughtful consideration to cause one to hesitate to advise surgical treatment for the relief of peptic ulcer unless the conditions are such as to render operative treatment necessary or a surgeon highly skilled in the technic of gastric surgery is to perform the operation

May there not be a method fraught with less danger when applied in a world-wide way to that portion of the public afflicted with ulcer?

MEDICAL TREATMENT OF PEPTIC ULCER

What may be done by medical treatment to relieve the distress symptoms and contribute to the eradication of the ulcer and its complications? Obviously, medical treatment can contribute directly to the eradication of the ulcer only by employing such measures as promote the healing of ulcer Likewise, when the surgical treatment of the disease does not include a direct removal of the ulcer, eradication of the ulcer by the surgical measures employed must act by establishing conditions that promote the healing of the ulcer Gastro-enterostomy, the operation most frequently performed for the relief of peptic ulcer, does not remove the ulcer The ulcer cannot cease to exist without undergoing a definite healing process terminating in a mature cicatrix It must be obvious, therefore, that except in those instances in which surgical treatment includes removal of the ulcer, both surgical and medical treatment contribute directly to the eradication of ulcer only by promoting its healing Nature fills in the defect All that medical or surgical treatment can accomplish toward directly promoting the healing process is to remove such hindrances to healing as may exist For many years two essential factors have been recognized as contributing to the development and chronicity of the clinical type of peptic ulcer (1) local malnutrition or necrosis of the mucous membrane or walls of the stomach or duodenum is regarded as the initial factor, (2) the destructive action of digestive gastric juice on such local areas of malnutrition or necrosis as exist

Well nourished and otherwise undamaged tissue fully resists peptic digestion It matters not whether the tissue is protected by its normal coverings or whether raw surfaces are exposed The rapid healing of the usual experimental ulcer produced, for example, by the injection of silver nitrate is thus explained Unquestionably peptic ulcer develops and, attended by few or no symptoms, heals without treatment in an enormous number of instances The tissue adjacent to, and constituting the surfaces of such ulcers is enabled through adequate nutrition or vitality successfully to resist the eroding action of the gastric juice and such other hindrances to healing as may exist All accumulated evidence has demonstrated that when tissue, lowered in vitality, from any cause, is exposed to the digestive action of the gastric juice, the surface of that tissue becomes eroded The healing of peptic ulcer is retarded or prevented by the eroding action of the gastric juice proportionately to the diminution in the vitality of the tissue exposed in the ulcer and the constancy with which digestive gastric juice is in contact with the ulcer The digestive or eroding action of gastric juice is due to the solvent action of pepsin in the presence of free hydrochloric acid As an eroding agent, gastric juice is absolutely inert in the absence of free hydrochloric acid When the vitality of the tissue present in the surfaces of a gastric or duodenal ulcer is lowered sufficiently to render it susceptible to gastric juice digestion, the maximum efficiency of medical treatment cannot be attained without bringing about an accurate neutralization of the free hydrochloric acid as advocated in my articles, beginning with the year 1912, and carried out with increasing accuracy and improved results in our clinical work since the year 1903

With the free hydrochloric acid accurately controlled in the manner advised, the greatest known hindrance to the healing of ulcer that is amenable to medical or surgical control is removed The conditions for the healing of the ulcer are rendered as ideal as possible in the light of all accumulated knowledge The beneficial influence of gastro-enterostomy in bringing about a cure of gastric and duodenal ulcer through a reduction in the free hydrochloric acidity from 14 to 30 per cent, as is asserted, and more particularly through the accelerated emptying of the stomach, thus reducing the duration of gastric juice contact, has been the recognized explanation of the wonderful relief of symptoms and the apparent and real cures following successful gastro-enterostomy when applied to ulcer associated with pyloric obstruction It is important to realize that a reduction in the degree of free hydrochloric acidity short of its complete neutralization does not in the least diminish the peptic activity of the gastric juice

The higher the grade of obstruction, the greater the benefit of the operation In high-grade obstruction the contact of the irritant contained in the gastric juice is reduced from twenty-four hours to between nine and fifteen hours each twenty-four-hour period If the healing of obstructive ulcer is so greatly favored by such a limited reduction in the duration of peptic gastric juice contact, is it not logical to conclude that the healing of the ulcer would be much more greatly favored by destroying virtually all peptic activity by alkalis in carefully regulated doses, thus much more efficiently protecting the ulcer from gastric juice contact than can be accomplished by gastro-enterostomy or any other operative procedure that does not occlude the pylorus? Pyloric occlusion has become, with rare exceptions, an unpopular surgical procedure Our work has demonstrated that, as a result of the constant protection of the ulcer from digestive gastric juice contact, one of the most common and serious complications of peptic ulcer—namely, pyloric obstruction—is likely to yield rapidly In approximately 85 per cent of all cases of pyloric obstruction due to ulcer, ranging from the lowest to the very highest grade, the obstruction is overcome during the first three weeks of treatment to such a degree that a full meal of ordinary food is discharged through the pylorus within the normal seven-hour period In such cases the obstruction is not due to actual tissue narrowing but presumably to spasm of the pyloric muscle, acute inflammatory swelling and rarely to local peritonitis In the remaining 15 per cent of cases, the obstruction yields more slowly and is due to actual tissue narrowing which cannot be completely overcome without surgical interference in approximately one half of these cases

As far as the hindrance to healing occasioned by the digestive gastric juice is concerned, the conditions for the healing of the obstructive type of ulcer following gastro-enterostomy are rendered approximately the same as those present in the nonobstructive gastric or duodenal ulcer without treatment It must be remembered that after gastro-enterostomy the stomach does not empty itself of ordinary food and its accompanying secretion appreciably earlier than the normal time and that the stomach continues to discharge its contents through the pylorus in quantity proportionate to the size of the opening through it In all cases in which pyloric occlusion is not included in the operation, the opening through the pylorus is sufficiently large to insure the contact of digestive juice with the ulcer for the entire time that food and its accompanying secretion are present in the stomach—an aggregate of nine to fifteen hours each day

Following gastro-enterostomy for the relief of pylorus obstruction, greater efficiency may be secured and the end-results improved by including in the after-treatment of the case an accurate neutralization of the free hydrochloric acid as advised

RELATIVE VALUE OF THE TWO METHODS

It would seem fair to conclude that in the absence of certain conditions and complications, such as are recognized by all as requiring immediate or subsequent surgical relief, the skill of the surgeon who is to perform the operation and the type of medical treatment that is to be employed should be the important factors influencing the choice of procedure in a given case In general, I am in close agreement with the statements made by Dr Bevan in his paper regarding the indications for surgical treatment provided the medical treatment employed is to be of the most efficient type, as implied in his paper When, however, patients with peptic ulcer are to be placed on medical treatment based almost entirely on empiricism, developed and handed down virtually unchanged in effectiveness during the last century, devoid of accurate technic, lacking in purposeful attack on such hindrances to healing as are known to exist under certain circumstances, then the indications for the surgical treatment of ulcer as outlined by Dr Bevan may be very greatly broadened, provided the operation is to be performed by a surgeon of the ability of Dr Bevan

It is to be understood that an ulcer may be so large, broad and deep that healing may never take place

Roentgen-ray examination is likely to give a valuable clue to the extent of the pathologic process when unusual difficulties in healing are likely to be encountered

In Oxford Medicine and in the Nelson System I have summarized the results that may be obtained by maintaining an efficient neutralization of free hydrochloric acid in the treatment of ulcer

1 Pyloric obstruction is influenced as described
2 The pain is completely controlled
3 Excessive night secretion is controlled
4 Hemorrhage ceases, occult blood disappears from the stool
5 Perforation has not been known to occur after the second day on management in our service
6 The penetrating type of ulcer is rapidly influenced, the defect as shown by the roentgen ray relatively rapidly disappears If the defect is not definitely influenced during the first two weeks of treatment, cancer is thereby suggested or the defect is due to an old cicatrix or the conditions for healing are not good If a skilled surgeon is available, the patient should be operated on
7 Ulcers of the stomach and duodenum that failed to heal after gastro-enterostomy and other surgical procedures are relieved at once of the distress symptoms and eventually healing has taken place in many instances
8 Healing of ulcer occurs Necropsies on patients that have died of pneumonia or other intercurrent disease while on management have shown that the ulcer was healing or healed Operative removal of the ulcer bearing area for various reasons, a few months after treatment has been instituted, has shown on many occasions that the ulcer was healing or healed Accurate clinical observation extending now over a period of many years furnishes such evidence as may be obtained by observing that all symptoms of the disease have disappeared and not returned It is to be understood that a healed duodenal ulcer is likely to show a cap deformity More than half of all cases treated have been of the pyloric obstruction type with such definite evidence of obstruction as visible peristaltic waves, food retention, Sarcinae and cap deformities

CONCLUSION

Whatever the future may reveal as to the causes of ulcer and the influences that retard its healing, these results—as published in detail elsewhere—may be obtained by maintaining an efficient neutralization of free hydrochloric acid in the manner advocated In our service the method has been found applicable to the rich and poor alike After the four-week period of accurate supervision, the patient is able to take up his full work and continue with it, irrespective of its character, for the required time—a year or more if necessary Prepared chalk, magnesium oxid and sodium bicarbonate are relatively inexpensive drugs Except in those cases in which surgical treatment is clearly indicated, all agree that medical treatment should be given a thorough trial before resorting to surgical measures I am sure that if the medical treatment as outlined in Oxford Medicine is applied without modifying it to such an extent as to destroy its value, the necessity for surgical treatment of peptic ulcer will be very greatly reduced

122 South Michigan Avenue

THE RELATIVE RÔLES OF MEDICAL AND SURGICAL TREATMENT IN GASTRIC AND DUODENAL ULCER*

THOMAS R BROWN, M D
BALTIMORE

In presenting one's views as to the relative value of the nonsurgical and the surgical treatment of gastric and duodenal ulcer, one cannot help feeling the essential and inherent difficulties of such a discussion The enormous amount of literature on this subject of the past few years, with many conflicting articles trying to evaluate the various modes of therapy, some attempting to prove the wondrous merits or the hideous defects of some special operative procedure, or some selected diet or some drug, others trying to show that certain bacterial or neurogenic factors or vascular disturbances are the sole etiologic factor in the disease, others insisting that in the roentgen ray lies the sole hope of correct diagnosis, others that it is often unnecessary, and that the anamnesis or the utilization of certain special tests is the prime factor of importance in arriving at a true realization of the underlying condition, all show beyond peradventure the unsatisfactory and unsettled state in which this subject, so long studied by so many men of so many minds and from such different angles, still is, and how much both physicians and surgeons are in need of some rational basis of agreement as to the proper mode of attack in this group of cases

Certainly, as I look back through that long vista of years since the swaddling clothes of medicine first enfolded me, I seem to see, "as in a glass darkly," scattered through this vast and often arid desert, oases —appearing at regular intervals devoted to similar symposiums on the treatment of gastric and duodenal ulcer, where noted surgeons and intrepid clinicians battled valiantly for their special mode of therapy, and where, at the end of these Homeric conflicts, each left the field even more convinced than before of the omnipotence of his especial therapy, were it surgical or medical, and of the weakness and frailty of the lance of his opponent in these periodic struggles The reason for such dissatisfaction and for such uncertainty is not hard to find, for treatment without knowing the cause, without being sure that the symptoms are characteristic, and without being certain beyond reasonable doubt as to the diagnosis, must, of necessity, be unsatisfactory

ETIOLOGY

Let us for a moment, before discussing the question of treatment, mention briefly some of the moot questions in the field of etiology, symtomatology and diagnosis As regards etiology, the usual explanation is still that the immediate cause of the condition is the digestion of a certain portion of the mucosa by the proteolytic enzyme of the stomach, or its destruction by the corroding effect of the hydrochloric acid, but as to the contributory causes, the views are myriad Disturbance of circulation and consequent lowering of the vitality, as first suggested by Virchow, seems to me still to be the most plausible factor in many cases, but whether this is due to thrombi, or emboli, or to

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constriction of blood vessels due to pressure or to reflex cause or to spasm or to a break in balance between vagus and sympathetic systems, it is often impossible to say

Certain experimental work in this field has shown that ulcers can be produced by occluding the vessels in various ways, but that this is not the only factor is shown by the fact that these ulcers heal spontaneously very rapidly, although their healing is distinctly retarded by chronic irritation from food, by an artificially produced anemia, or, according to some, by the administration of hydrochloric acid in considerable amount These three additional factors, that is, trauma, either external or internal, be it mechanical, chemical or thermal, anemia, notably chlorosis, and hypersecretion or hyperacidity of gastric juice—perhaps the terms are in reality synonymous—have many adherents Some believe, on the other hand, that qualitative changes rather than quantitative changes in the gastric juice play the fundamental role, others that the lack of antipepsin in blood or stomach wall is the prime cause

Many believe with Eppinger that a marked instability of the sympathetic and vagus systems is the underlying cause, others, that definite changes in the nerves themselves play a large role, and this has some experimental basis Disturbances in the motor sphere, peculiarities in the form of the stomach, such as ptosis or congenital malformation, functional or organic abnormalities in vascular and nervous systems, all of these have been regarded as factors of importance That the essential role is played by bacteria is insisted on by many, some believing in their specificity, others that they simply represent secondary invaders which inhibit healing and lead to chronicity As regards the former, many believe that the presence of specific streptococci is essential It is well to remember in connection with these various theories that the gastric veins are freely open to any substances coming from the spleen, that this may give rise to infectious emboli, as Gibson has insisted, and that "the anatomical distribution of the blood supply of the mucosa of the stomach is a prime factor in determining not only the location, but also the cause of gastric ulcer" as Hofmann and Nather have so beautifully shown, which supports the original view of Virchow that "ulcers are caused by embolism or thrombosis of the small vessels of the stomach, the congestion caused thereby leading to a diminution of the vitality of the tissues and digestion by the gastric juice," as well as the vagotonic and reflex theories of origin

The point always difficult to explain is, Why do ulcers become chronic? The striking feature of all artificially produced ulcers, whether due to freezing, to local trauma, to injury to nerve or blood vessel, or to other causes, is their tendency to spontaneous healing, and any one who has studied necropsy records must realize that this must happen in many cases in human beings as well—cases either diagnosed as ulcers or, more often, not diagnosed at all, owing to either absence or vagueness of symptoms Why some ulcers become chronic and intractable and others heal spontaneously is hard to determine, but it is probable that bacterial, chemical, traumatic or mechanical irritants notably, from the food or from its admixture with pathologic excretions or secretions of mouth, tonsils, accessory sinuses and stomach, or persistent and reflex gastric stimulation from elsewhere, notably the appendix, as Moynihan has so often insisted, or the instability of vegetative nervous system, which we call vagotonia may be the factors which convert the superficial acute to the deep chronic ulcer Perhaps, after all, this is the safest view to hold, that is, in the absence of a proved specific cause, an ulcer usually represents destruction of tissue by acid or by proteolytic enzyme due either to a localized lowered vitality secondary to some disturbance in blood supply, thrombotic or embolic, or to the constriction of spasm or pressure, and that chronic irritation of food, definite vagus irritation and bacterial invasion probably play the larger roles in preventing the ulcer from healing, and in tending to progression of the ulcerative process with its concomitant induration and cicatrization, although certain constitutional disturbances, notably anemia, may also play a role in certain cases

SYMPTOMS AND DIAGNOSIS

As regards symptoms, there is again nothing absolutely characteristic In some cases there are no symptoms Think, for instance, of the number of healed ulcers found at necropsies, in cases in which there were absolutely no symptoms during life which would make one suspect the diagnosis Think of the other cases in which the first symptom is hemorrhage or perforation, and the many others with such indefinite symptoms that diagnosis is not possible, and, on the other hand, the large number of cases with absolutely classic symptoms, and yet in which the subsequent course of the case or the operative findings reveal no ulcer In the last, of course, the symptoms are in reality due to some other cause, a diseased appendix or gallbladder, a gastric neurosis, or some instability of the nervous mechanism of the stomach or to its malposition, with consequent disturbance of motor or secretory functions or both In my experience, for instance, the typical ulcer complex is peculiarly likely to occur in gastroptosis with a high fixed pyloric duodenal region, when decompensating symptoms begin to appear It is this group of cases, incorrectly diagnosed, which has made so many surgeons regard with skepticism the diagnosis of ulcer on the part of the clinician, and has made them feel that, in many of the so-called cures by nonsurgical methods, ulcer, in reality, was not present at all, a group, however, probably equaled in number by those cases in which the patients are regarded by the surgeons as permanently cured because they leave the hospital with no symptoms, *and yet have a return of symptoms later*, the suggestive therapy associated with the operation, combined with rest, appropriate diet and hospital care, having led to a temporary complete disappearance of symptoms irrespective of the operative procedure

On the other hand, it must not be forgotten in this connection that, if the ulcer is very superficial, in other words is a real mucous ulcer or erosion, often it cannot be felt by the surgeon by palpation of the peritoneal surface, and, unless the stomach is opened, will not be recognized, and the latter procedure—opening the stomach—is hardly justifiable unless the case has been peculiarly intractable, or frequent hemorrhages have occurred, or pylorospasm with partial obstruction is a striking part of the picture

As regards the symptoms in detail, pain is often absent, sometimes atypical, but it is, of course, a valuable symptom, its relation to meals, its disappearance with the addition of food, often being extremely significant Periodicity of the attacks is, to our mind, the one most valuable clinical symptom, peculiarly likely

to occur in spring and fall, peculiarly unlikely to occur in summer—diagnostic points on which Moynihan lays special stress, and so beautifully brought out by Cohnheim's analysis of a large group of cases In all cases diagnosis must be made by a complex of findings vomiting, hemorrhage, effect on the appetite, sensitiveness to pressure or to percussion, dorsal pain points the finding of evidences of hyperacidity or hypersecretion notably of course, in the fasting stomach, the finding in the fasting stomach test of microscopic or macroscopic evidence of pyloric obstruction, the finding of occult blood in the stools, most important if the test is carried out with rigorous exactness, and findings from roentgen-ray examination

As regards hypersecretion, a few believe that hypersecretion always represents a potential ulcer, a view, we believe, that is not sound We must not forget that ulcer, especially of the duodenum, is not at all uncommon in children, that juxtapyloric and duodenal ulcers may all have practically the same symptoms and are much more common in man, and that ulcers of the lesser curvature are more frequent in women, have a much less clean-cut symptomatology and are much more likely to heal spontaneously

It is well to remember that, while practically none of the roentgen-ray signs are absolutely diagnostic, no examination is complete without a careful fluoroscopic and roentgenographic study, but the clinician is very unwise who puts his main reliance on this in reaching a diagnosis Roentgen-ray diagnosis, except in the hands of a very small group of real experts, is a frail reed to lean on as the sole diagnostic support We must not forget that filling defects, besides being due to definite organic lesion of the stomach wall, may represent anatomic peculiarities may be an evidence of spasticity, peculiarly likely to be met with in the so-called vagotonic group, or may be due to posture or to pressure, and are peculiarly likely to be met with in association with adhesions or as a reflex phenomena from disease elsewhere, notably the appendix When the roentgen ray can make a definite diagnosis, in many cases, probably in most, such a diagnosis could have been reached by other methods It is needless here to insist that frequent roentgenographic studies are important, and that one should not depend on one examination alone A persistent break in continuity in such examinations, or disturbance in the peristaltic wave often corresponding to the site of the pain on deep pressure is, of course, of extreme value, while modification in the peristaltic rhythm, and alternation of phases of fatigue and phases of hyperactivity are always suspicious In a series of 247 cases, previously studied by a most competent roentgenologist in which the diagnoses were verified by operation, Quervain found that a correct diagnosis was reached by the roentgen ray in 87 per cent of the gastric ulcers, but in only 54 per cent of the duodenal ulcers

In regard to the value of the occult blood test, it is well to remember that the benzidin test is far more satisfactory than the guaiac but that certain of the substances used in the treatment of ulcer, notably bismuth salts, and various absorptive mediums, can inhibit the catalytic action, and we will have a negative finding, notwithstanding the fact that bleeding still takes place With the utilization of all these signs and symptoms, with especial attention to a careful history of the case (and to me this is the one most important individual factor), especially the symptoms in the early phase before the picture has been blurred by late changes, such as increasing induration and adhesion development, with the thorough roentgen-ray study, and the careful study of the stool for occult blood and the gastric contents for both secretory and motor abnormalities, and with a thorough general physical examination, unquestionably we have done all that can be done in diagnosis in this field

That it is not completely satisfactory, however, is shown by the large number of incorrect diagnoses as demonstrated by the subsequent history of the case or by surgical treatment diseases of the gallbladder, renal crises or ureteral calculus, appendicitis, carcinoma, conditions caused by various forms of intestinal parasites, various neuroses, visceroptosis, the gastric crises of tabes, epigastric hernia, all of these present symptoms which in certain cases can make a real differential diagnosis almost impossible

TREATMENT

I have obviously far too little time to go into many of the details of treatment, medical and surgical, and therefore will call attention only to certain impressions, convictions, if you will, which I have reached from my experience in this field In the first place, it is singularly unfortunate that there has always existed and that there still exists the feeling that we must commit ourselves in all, or almost all cases of ulcer, to an exclusively medical or an exclusively surgical form of therapy—a point of view which is peculiarly unfortunate and absolutely false, because, in order that the treatment of these cases may be successful, each case must be studied individually, attacked as a definite entity, and treated accordingly, with utilization of every therapeutic measure at our command, including, of course, surgery, in a very considerable proportion of cases

In a disease of such varied etiology there must be a varied therapy, and the proper utilization of that therapy must be fitted to the case under study, be it regulation of life, dietetic suggestions, the use of drugs, the application of various forms of physical therapy or the utilization of one of the various surgical procedures, and must of necessity be determined in each case individually To hold a brief for any special therapeutic procedure, be it the employment of a rigorous scheme of diet, or a certain drug, or a small bucket on the end of a rubber tube, or a special operative method, is unscientific and unsound and unsafe Each case must be regarded individually, each case has its special features in etiology and symptomatology, and in each case these must be carefully considered in planning the appropriate treatment

Let us briefly touch on some of the points of importance in the treatment of these cases as I have seen them

As regards planning the special treatment, I have to reiterate that I have been helped considerably by careful analysis of the patient's history, the attempt to elucidate factors which seem to play a part in calling forth the syndrome and to combine this with a most complete general physical examination in order to determine other factors of equal importance, the presence or absence of focal infection, the condition of the circulatory apparatus and of the nervous system, and the presence or absence of psychic factors in the case, in other words, the attempt to get every possible help from the history, from the physical examination, and

from special tests before attacking the special problem of the individual patient

If it seems wise to attack the problem first without surgical help our main reliance must be on rest and diet. Rest does not necessarily mean rest in bed, although in most cases such an absolute rest is important, but most people forget that the rest of the mind and of the nervous system is of as great, and sometimes greater, importance than mere bodily rest, as disturbance in the psychic sphere may produce far more marked secretory and motor disturbances than even active exercise. On the other hand, if bleeding is not taking place and the symptoms are relatively mild, very often for various reasons an ambulatory treatment will be more successful than absolute rest. If the symptoms are acute, if bleeding is present, rest is essential, and it is our most valuable therapeutic aid. In these cases, whether it is for two weeks, four weeks or six weeks must depend on the individual conditions, but, unless we can promote psychic rest at the same time, our efforts sometimes go for naught.

The principles of diet are relatively simple. From the days of Leube and Ziemssen, it has been recognized that diet must be nonirritating, must furnish a sufficient number of calories, must call forth as little as possible gastric secretion, and yet must neutralize as much acid as possible. It is, therefore, quite obvious that certain diets will better satisfy certain of these requirements, other diets, other requirements. If the patient is strong, or if bleeding is marked, a few days of absolute starvation with a rectal drip to relieve thirst and to lessen acidosis is advisable. Again, in robust patients, we can give diets of lower caloric value than in those that are depleted, and quite obviously need building up. Whether we choose a cereal-carbohydrate diet, a milk diet, an olive oil-gelatin diet, a pure diet or a mixture of soft foods must depend on the individual patient. Some do well with one, some do well with all. The proportion of cures, if one can judge by statistics, seems to be about the same with any of the special diets, but I wish to reiterate: do not confine yourself to one special dietetic scheme, try to suit the individual findings and the individual tastes of your patient. It is far better to satisfy a patient with cereals than to disgust him with an exclusive milk-cream diet, and vice versa, while often a combination of both is better than either.

Whether to feed at one hour or two hours or at even longer intervals is again a question which must be decided in each case. The important thing is to prescribe the diet which will bring the best results in the quickest time, and then not forget that the treatment must not end with the cure, but that the patient must follow careful dietetic directions, the diet, of course, being in most cases a relatively broad one, yet always within the limit of his capabilities, for a long period of time, sometimes for a year or more, sometimes, in the chronic cases, practically indefinitely.

If the patient does not respond to rest, simple drugs and diet, and local applications of heat or cold, whichever seems the most effective, within ten days' or two weeks' time, especially in cases which have had a long history, it is always wise to ask ourselves the questions, Is the diagnosis of ulcer correct? and, If it is correct, are we not also dealing with definite complications, such as marked induration and cicatrization and development of adhesions? Whether we use alkalis or not is again largely a question of individual feeling. Most patients get along better with them, and recent work seems to show that if properly administered they not only neutralize the acid formed, but distinctly inhibit acid secretion. On the other hand, there are certain cases in which alkalis, especially the carbonates, do unquestionable harm. Again, in regard to belladonna, if we have evidence that one, at least, of the factors in the ulcer picture is an irritable vegetative nervous system, with unstable balance between vagus and sympathetic, it is the most valuable drug we have, but only if given in maximal doses.

With the foregoing treatment, we can really cure a large number of acute cases, we can definitely relieve the symptoms in many of the chronic cases, and if the patient is conscientious in carrying on the proper after-treatment, may have a symptomatic cure, but we must always realize that the mere cessation of symptoms does not necessarily mean cure, and until we are able definitely to attack the causal factors, we cannot honestly say we have cured the chronic cases. An ulcer scar, if deep, is a point of least resistance, which may produce no symptoms under ideal conditions, but may play a very potent role in disturbing motor and secretory functions if these ideal conditions—psychic, dietetic, physical—are interfered with, and in life, alas! as it is lived now, it is practically impossible to avoid this. As long as an indurated area or a callous scar remains, we have the potential basis for further trouble, and this is, and must be, an important reason for the surgical attack on this group of cases.

It is, of course, obvious that in perforation or gross obstruction which represents organic stricture, and not spasm or edema, or the tendency to repeated hemorrhage, or malignant change, surgery is the only rational procedure, and it seems to me just as obvious that for the acute superficial ulcer, medical treatment is the only procedure to be considered. But in that large group of cases of chronic ulcer without obstruction, without repeated extensive hemorrhage, we must always realize that, up to the present at least, neither method of treatment has been sufficiently successful to warrant the exclusion of the other. Of course, if you believe with some that every ulcer is a potential carcinoma, operative treatment is the only treatment, but I think this belief is not well founded. It seems to me that it is very safe to preach the doctrine that, in these chronic cases without need for immediate surgery, it is far safer to try medical treatment first. Little time is lost and no harm is done, the second state of the patient is no worse than the first, and it is possible that a symptomatic cure may be obtained. But if such treatment conscientiously applied, skilfully given, with a sufficient period of time to test its efficacy, does not yield results, I feel that the patient, even in the present status of surgery, should be treated surgically and not medically. Before making this decision, however, it is wise to try every one of the factors mentioned above to see whether good results can be obtained. Improving the general condition is one of the most potent of these factors, and nothing demonstrated more strikingly the importance of systematic exercise and freedom from responsibility than the marked improvement met with in many cases of absolutely definite ulcer among men who were in active service during the war.

In treating the complications of ulcer, I feel that the treatment of extensive hemorrhage should always be medical, that the appearance of tetany after the pre-

liminary treatment with calcium acetate or ammonium chlorid given intravenously should call attention to the need of immediate surgery to relieve the obstruction, and that the only justification for duodenal feeding is vomiting which cannot be controlled by other means

In discussing treatment by surgical means, we must always compare the severity of the symptoms, their frequency, their alleviation, if not cure, by medical means, and the effect of the patient's symptoms on his happiness and his work, with the probable results of surgical treatment After all, only two forms of benign gastric disease have a vital indication for operation almost complete pyloric stenosis and frequently recurring hemorrhage, in all other cases the need of operation is relative, not absolute

That surgery has not been universally successful in many of these cases is shown by the shift of surgical opinion as to the operation of choice, gastro-enterostomy, pyloroplasty, cauterization or excision, resection, Polya operation, all of these having their adherents At the present time, not one of these operations will bring about a condition approximating the normal, each is liable to development of certain post-operative complications jejunal ulcer, vicious circle, recrudescence of ulcer symptoms, intestinal indigestion after gastro-enterostomies, and the possibility of obstruction or of the formation of adhesions to a greater or less extent in all the other cases, as witness the many patients returning for a second or even a third operation In this field, the technical difficulties of many of these operations are great, notably in pyloroplasty, although, if properly performed, I believe it is the best operation Each operation will leave behind something abnormal in the stomach or duodenum which, given other factors of disturbance in gastro-intestinal mechanism, may lead to definite reflex disturbance in the secretory and the motor spheres or in the metabolic gradient, if you will

Certainly, it is well to remember all of these factors before committing the patient to surgical therapy, and yet, in my experience, in the chronic group of cases, even without obstruction, surgery has been more effective and more permanent in its results in the majority of cases than medical treatment, notably in cases in which pyloroplasty, resection or the Polya operation has been done To me, gastro-enterostomy has always seemed peculiarly unphysiologic, I have rarely seen cases, except those of almost complete pyloric obstruction, in which it has been absolutely successful, and gastro-enterostomy has never seemed to me the operation of choice, but the operation of necessity

It is hardly worth while reiterating here the fundamental importance of careful postoperative treatment in order to prevent the formation of adhesions, the development of a new ulcer, or the recrudescence of the ulcer which we have not been able to remove The avoidance of gastric and intestinal symptoms must be dependent on careful postoperative management, and this, I feel, can be far better directed by the clinician than by the surgeon Many potential successes have been converted into absolute or complete failures by the lack of this cooperation in the after-care of surgically treated cases, and there is no condition in which an ulcer cure is more plainly indicated than after surgical removal of the ulcer It seems to me that it is a very poor clinician who will refuse the help of the surgeon in this group of chronic cases and an equally poor surgeon who will not utilize the clinician's knowledge of dietetics and physical and drug therapy

It is interesting to note that practically the same percentage of cures is claimed by the followers of each special scheme of diet as by the followers of special surgical procedures Each must be deluded as to these figures Certainly from 75 to 90 per cent of ulcers are not really cured in the true sense of that word by either medical or surgical procedures Our clinics and consulting rooms are filled with patients suffering from recurring symptoms after medical treatment, and with patients that return with the same or different symptoms after surgical therapy

SUMMARY

We have tried to show certain of the difficulties inherent in this subject, especially as regards treatment, but also as regards etiology, symptomatology and diagnosis Certainly, any one who approaches this subject with an unbiased mind cannot help feeling more dissatisfied than satisfied at the picture presented, but there are, I feel equally sure, certain conclusions that we are justified in drawing from this survey, based on proved facts in etiology, symptomatology and diagnosis, on the experience founded on the careful study of many hundreds of such cases over long periods of time and on the many lessons learned from our successes, and especially from our failures, always remembering that with such a probable multiplicity of etiologic factors, there cannot be one, and only one, successful mode of treatment Relative rest, a non-irritating but ample diet, the utilization of certain simple principles as to physical therapy and simple medication, with the subsequent inculcation in the patient of proper habits of living, not only as regards diet but also as regards the proper attitude toward his environment, these are the fundamentals of medical therapy, in addition, of course, to the elimination of factors that may play a large etiologic role, notably focal infection and diseased conditions in other portions of the abdomen

Individualize your cases, do not treat all cases alike, remember that what is one man's meat is another man's poison Some will do well on milk and cream, others on a diet rich in carbohydrate, but relatively poor in protein In some hourly feedings are beneficial, in others longer intervals bring better results Never fail to remember that practically the same estimated proportion of cures—all, incidently, far too high in my opinion, because of the improbability of correct diagnosis in certain cases and the impossibility of thoroughly following up many cases—have been reported by the violent partisans of each special dietetic schema, which should suggest to us that frequent feeding with any suitable nonirritating diet is the great desideratum, if the patient is given, in addition, proper bodily and mental rest Remember that many cases are cured spontaneously, and will be cured whatever the diet, and also, alas! many others are not cured by any of the diets chosen Never forget the important contributory role that psychogenic and neurogenic factors play in some cases, unquestionably a larger role than mechanical irritation of food, and that the mitigation and diminution of these factors will do more than any one thing in bringing about a symptomatic cure at least or in preventing a relapse, and never forget that far too little attention has been paid in the period of after cure to exercise and other forms of physical therapy to improve the nutrition of the patient

It seems wise that all acute ulcers, except, of course, those with symptoms of perforation, be tried first with

medical treatment, for the success of such treatment in this group of cases is large, and it seems wise also that, in the present state of surgical therapy, even in the chronic ulcers, except those with marked organic obstruction or with a history of repeated hemorrhage, nonsurgical treatment be tried first, not because we can produce a true cure, because in the case of the deep callous ulcer with induration and cicatrization, cure, in the true sense of the word, cannot be obtained by medical means, though often we can bring about a disappearance of symptoms and a symptomatic cure, but because it seems fairer to the patient than immediate recourse to surgery, with its multiple possibilities of early and late postoperative complications

If, on the other hand, medical treatment does not bring about relief, it is foolish not to give the patient the possible benefit of surgical therapy, with resection of the ulcer, and as close an approximation to the normal physiology as possible, in the hope that adhesion formation and disturbance of gastric function will be reduced to a minimum after the operation After all, chronic callous ulcer is fundamentally surgical, and would always be surgically treated were it not for these many postoperative complicating possibilities It is well to remember that many failures are not referable to the operation as it is conceived, but as it is performed, for the technical difficulties of this work are great, and the really capable surgeons in this sphere none too numerous

There are, of course, certain encouraging aspects of this subject Even if we do not know the fundamental cause of ulcer (if there is such a cause), we have, at least, added largely to our knowledge of certain contributory etiologic factors The many spontaneous cures as shown by pathologic reports, the number of cases of undoubted recovery under medical treatment, the definite realization that certain of these conditions never, in the strict sense of the word, become chronic, that is, the lesions do not become indurated, but remain superficial, the prolonged periods of perfect health between the periodic outburst of symptoms in many cases of duodenal ulcer, the great improvement in surgical technic, with its minimization of avoidable complications, the addition of operations which attempt a closer approximation to the normal physiology, and certain additions to our diagnostic methods, notably the study of the stool and roentgenologic studies, all of these show beyond question that there has been some progress in this field

On the other hand, when we think of the investigators who have struggled, in the main unsuccessfully, to clear up the fundamental question of etiology in this group of diseases Virchow, Rokitansky, Cohnheim, Pavy, Ziemssen and literally hundreds of others, when we think of the ever present difficulty of making a correct diagnosis and the many moot points in symptomatology, and when we remember the great number of complete and partial failures after treatment both medical and surgical, we must, I believe have a feeling of dissatisfaction rather than of satisfaction at the present state of this subject The unsolved problem is still the problem of many years ago Why does not the spontaneous ulcer of man heal as rapidly as the experimental ulcer of animals, and why does it show such a tendency to the progressive changes that lead to chronicity? We are still unable to answer to our complete satisfaction the two questions, Why is an ulcer? and When is an ulcer? Could there be a more discouraging admission as to our dissatisfaction with the present status of ulcer therapy than Moynihan's recent suggestion of jejunostomy with subsequent complete rest of the stomach for many months in certain cases except perhaps it be for the apparent demand for these periodic and inconclusive symposiums?

We are still waiting for a Moses to lead us out of the wilderness, for some one to show us at last what the fundamental underlying factors are so that we can utilize that best of all therapeutic measures, preventive therapy, but, until such a promised land is reached, we must of necessity be compelled to utilize the means at present at our command For these measures to give the optimum result, we must realize that the blind following of any one method of therapy can never spell progress, that the patient must be the first consideration, that each case must be studied and treated individually, that, in the treatment, that form of therapy must be employed which is best suited to his special needs and this can only be brought about by a far closer cooperation between clinician and surgeon in the study as well as in the treatment of these cases, and that, as a result of this cooperation, which will redound not only to the benefit of the patient but also to the benefit of surgeon and physician, we shall no longer talk of medicine *versus* surgery, but medicine *and* surgery in the treatment of gastric and duodenal ulcer

19 West Biddle Street

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS BEVAN, SIPPY AND BROWN

DR J M T FINNEY, Baltimore The subject has been covered so well by these papers that I find myself at a loss in attempting to discuss them About all I can do is simply to emphasize a few of the more important points In discussing the management of gastric ulcer, it must be admitted that the prevailing feeling is one of dissatisfaction, with both the medical and the surgical treatment We are still short of saving 100 per cent of cases and the goal is 100 per cent The reason is the lack of certain knowledge as to the etiology of ulcer and our lack of ability to make a diagnosis of ulcer with any degree of certainty Even with the aid of my skilled medical colleagues, I find myself sometimes unable to make a definite diagnosis of ulcer either duodenal or gastric Furthermore, sometimes I find myself very much embarrassed when I have the stomach right before me to tell whether there is an ulcer Even when I have opened the stomach in the course of a pyloroplasty, I find myself still more embarrassed to tell whether there is an ulcer—with the mucosa right before me I heard Dr Pool say that in case of doubt he did a gastro enterostomy to see whether there was an ulcer or not That encouraged me greatly The prevailing method of treatment in the vast majority of cases of ulcer has been gastro-enterostomy, so that many surgeons invariably think of gastric and duodenal ulcer and gastro-enterostomy almost synchronously That is one of the greatest reasons for this feeling of dissatisfaction that exists today with the treatment of gastric or duodenal ulcer We have been generalizing too much on insufficient data We have been operating without really sufficiently definite indications for operation I would urge that we endeavor to unravel the mystery which exists in regard to the etiology and to establish a satisfactory treatment whether medical or surgical or both, of gastric and duodenal ulcer I have tried every accepted method of surgical treatment and I am still dissatisfied with the results I have felt that the best thing to do is to extirpate the ulcer I have tried the excision method advocated by Moynihan, with really satisfactory results, but that is a big operation, an operation that seemed almost too extensive to be performed as a routine procedure. I have satisfied myself that gastro-enterostomy per se offers no guarantee of a cure of the ulcer I have done simple pyloroplasty by my own method and by other methods and I have satisfied myself that pyloroplasty by itself offers no

sure guarantee of a cure of ulcer Therefore I now try to excise the ulcer through a pyloroplasty excision suggested by me about twenty years ago So far I have not had enough cases to convince myself that there is enough merit in that operation to advocate it So far there has not occurred a death or a recurrence My experience up to the present time convinces me that in the vast majority of cases it is feasible to excise an ulcer situated within 2 inches (5 cm) of the pylorus, on either side, through a pyloroplasty incision, with comparative ease and with great satisfaction to the patient I do not advocate that operation but I believe it offers something for us to think about My experience convinces me that when we can devise a method which will allow us to mobilize those parts sufficiently, the proper solution of this question will have been reached

DR FRANKLIN W WHITE Boston The opinions of medical and surgical advocates on this subject are getting closer and closer together and we find that whatever differences of opinion there have been in the past, they were largely due to the different types of case seen by the physician and by the surgeon Virtually every ulcer is first treated medically, and out of this big group is selected a small group of more serious, resistant, complicated cases with stenosis or recurrent hemorrhage which go to the surgeon The treatment of ulcer is not medical or surgical, but a combined treatment, one method being employed as far as available and followed with the other method We get good, permanent results with real medical treatment in a large percentage of cases Dr Bevan said about 90 per cent which leaves only 10 per cent for the surgeon This shows the heavy medical responsibility of the family physician and the internist for the treatment of most of the ulcers Dr Mayo's argument for the saving of expense and loss of time to the wage earner by surgical treatment is not a very strong one Medical treatment is ambulatory, as a rule Only a small group of the more seriously ill patients need a rest in bed for a week or two at the start, so that there is little economic loss in medical treatment, unless there is a recurrence Recurrence is preventable, as a rule, or easily controlled, in the uncomplicated cases The essential difficulty in medical treatment is not the early control of symptoms, such as pain vomiting and bleeding, but the carrying out of the regimen when the patient is symptom free Failure to do this has discredited medical treatment, and it has been a frequent cause of recurrence and failure of the ulcer to heal It is a matter of patience to heal a chronic ulcer it takes time This should be explained to the patient in advance, so that he will understand what is expected of him If recurrence can be avoided medical treatment is the method of choice in uncomplicated cases The patient must always make some sacrifice in taking either treatment on the one hand the sacrifice of a month or two for surgery and convalescence the time in the hospital the cost and moderate risk on the other hand with medical treatment, the moderate sacrifice of tastes and habits, but for a much longer time the observance of better hygiene, giving up tobacco and coarse foods and overcoming bad habits of eating The change of diet is not for a lifetime, but for a year Most patients with uncomplicated ulcer, the 90 per cent group, prefer medical treatment but naturally in the serious cases, the 10 per cent group the patients, when the situation is fairly put to them usually prefer surgery Another point is the importance of medical treatment for quite a long period after the operation The patient, and often the surgeon also will probably feel that after the operation he is good as new, and he begins to boast about what he can eat As a matter of fact there is a real necessity for some care in diet for months afterward The best results are obtained by the hearty cooperation of physician and surgeon

DR WALTER C ALVAREZ San Francisco Whenever one of my surgical or medical friends says to me that he can cure all cases of ulcer I like to tell a little story of St Peter and St Paul They were sent to earth to make a little report Lunch time arrived and they went into a cafe to eat When the time to pay came Paul said I will pay" and Peter said 'Oh, no, I will pay' As they could not agree, the waiter brought a little box with dice Peter shook the dice and said a few words and rolled out five sixes Paul shook them and said a few words and rolled out five sevens and Peter said Now Paul, no miracles between friends" Although I am a clinician, I must admit that I have more faith in the surgical than in the medical treatment of ulcer It is easy enough to cure many of these patients medically, but the trouble is, they will not stay cured The tendency to relapse is too strong I believe that people seen in the first one or two attacks should be given the chance to try a medical 'cure" unless they present certain features, such as marked gastric stasis tendency to perforation, or a suspicion of carcinoma which make them fitter subjects for surgical attention But, what are we to do with the many patients who cannot afford a strenuous and expensive 'cure' in a hospital especially when there is a 'big chance that the ulcer will return in six months or a year? Let me offer a suggestion from my experience Years ago, I thought an ulcer cure without rest in bed did not amount to much, but I have since discovered to my surprise that I can get as good results in ambulant cases as I used to get in the hospital The best cases for medical treatment are those with fairly recent duodenal ulcers Their main symptom is pain, relieved by the taking of food Insist on their taking some food every two hours and in uncomplicated cases you will give immediate and striking relief A man who is up and at work needs a liberal diet so let him have three square meals Forbid him the coarser vegetables salads fruits bran and all foods with pits seeds and skins In the morning have him mix up a pint and a half of milk, a half pint of cream and the yolks of four eggs Some of this eggnog should be taken to the office in a vacuum bottle so that he can take a glassful every two hours between meals Some should be taken also on retiring and a glassful should be beside the bed in case he wakens during the night Many of these people fatten on this diet and feel fine Those who are not helped will generally do better in the hands of a good surgeon Others are perfectly comfortable so long as they stay on the diet but develop symptoms again when they stop They also may have to be subjected to operation Remember that the essential thing is the giving of food so soon after each meal that the hunger pains cannot develop

DR. ALBERT J OCHSNER, Chicago My observations have had very much the same scope as those of Dr Bevan and Dr Sippy In other words, my clientele represents a group of people who are likely to consult me when they have some disease from which they have not recovered under the treatment of their local advisers I have had the opportunity of observing thousands of gastric and duodenal ulcers both from the medical and from the surgical standpoint When I looked up my series last it had far exceeded a thousand cases that I have treated surgically, and I have found that there are at least four patients that will recover permanently, under proper internal treatment to every one that requires surgical treatment I have had the opportunity to see the late results in the cases observed because I am constantly in contact with the same group of people The papers presented this morning outline the best possible medical and surgical treatment of gastric and duodenal ulcer What Dr Bevan and Dr Sippy said covers general practice What the Mayos have said gives the very best of surgical practice in cases that have failed after going the limit of medical treatment Almost all of the failures in treatment of the internist ultimately come to the surgeon If the surgeon is not in contact with patients who are being successfully treated by the internist, he comes in contact only with those patients who have been cured five or six times medically and at last have to be cured by surgical operation He does not come constantly in contact with the four patients out of five that have permanently recovered under the Sippy treatment or that which Dr Alvarez has just described Virtually every case in which the surgeon has failed to obtain a cure is bound to come to the internist Consequently he has no judgment about the large proportion of cases that have satisfactory results from surgical treatment The reason that certain persons have such extraordinary results under medical

treatment is that the patient will do what his physician instructs him to do Recurrences are prevented in a large percentage of cases I have found, in watching these cases of recurrent ulcer that had been treated medically that in every instance something has happened which stirred up a latent ulcer, which would not have been stirred up if the primary directions had been carried out We know from experimental observations in animals that it is almost impossible to keep a gastric or duodenal ulcer open No matter what you try to do, almost all of them will heal Why should they not heal under similar conditions in the human? Take a dog and cause a gastric ulcer in his stomach and try to feed him bones He will not eat them He has too much sense, humans have not Postoperative jejunal ulcer has been mentioned a number of times this morning In every case in which I have operated on a jejunal ulcer following a gastro-enterostomy, I have found that the anastomosis was not made at the lowest point of the stomach, usually through some mistake The surgeon tries always to get the lowest point, but for some reason he may fail to get it If the anastomosis is made too high, there will be an accumulation of acid or of decomposing gastric contents, which corresponds to the condition which produced the duodenal ulcer in the first place We should also remember that, following any form of surgical treatment for gastric or duodenal ulcer, we have a badly impaired machine Consequently if you abuse that machine dietetically after the operation you are bound to have trouble It is as important to insist on a proper diet after surgical treatment as it is during medical treatment

DR FRANK SMITHIES Chicago The chief satisfaction that has come out of this discussion is a general admission of the fact that we have not advanced very far either nonsurgically or surgically, toward the permanent relief of certain types of ulcer of the stomach and duodenum Virtually everything that has been talked over this morning, with the exception of certain frills in surgical technic was discussed by the ancients, and they expressed in almost precisely the same language as has been used here this morning their puzzlement respecting the etiology of peptic ulcer and admitted that they were defeated in attempts toward securing permanent relief from certain types of ulcer The time has come for a revaluation of certain known factors in the causation, the continuance and the healing of peptic ulcer From these discussions, the knowledge derived from the experimental production of ulcer and from the results of treatment of patients carefully followed up certain significant facts are revealed Among these I would mention the fact that all types of treatment have had the same influence toward the permanent relief or cure of proved peptic ulcer The ulcer that we cure readily by nonsurgical treatment is usually the ulcer about whose existence we have been in doubt The ulcer that we cure most permanently by surgical treatment is the ulcer that is most complicated In other words the treatment in both instances has been directed toward what might be called the complications of a certain type of disease, which disease has certain gastric manifestations both symptomatically and pathologically It would appear to me that the time has come for us to recognize that very likely with peptic ulcer either gastric or duodenal, we are not dealing with a disease in the stomach or duodenum *sui generis,* but with a type of complication of systemic disease in which disease the stomach or duodenum has become involved Such disease may be initiated by a wide variety of systemic upsets It thus follows that numerous etiologic factors can be brought forward in ulcer, that there are different types of pathology associated with it and there is a wide variation in reports regarding the results of treatment So general is the dissatisfaction throughout the country as to the results of ulcer treatment that it almost becomes the duty of these combined sections to appoint a committee to study into this question It occurs to me from study of the so-called etiologic factors in ulcer that we are not going to make any permanent therapeutic advance until we recognize that what we are now doing in the treatment of ulcer is merely treating a local gastric complication and not a disease which is systemic in type, and which may be initiated by a wide variety of agents

DR ROBERT C COFFEY, Portland, Ore Too much pessimism has been shown here No condition responds to treatment more readily and more accurately than duodenal and gastric ulcer Dr Sippy has developed the best and most rational system for treating a given lesion medically I believe that Dr Sippy has given us the best conception of the agencies required for treatment, either medical or surgical I wish I could be as positive and agree with Dr Bevan If I were in the Presbyterian Hospital and had the association of Dr Sippy I am sure I would have the same opinion he has The great majority of medical men who claim to be using the Sippy treatment do not get the results On the other hand if the only surgeon available were the one who has the fatalities, I would want medical treatment But if I could go to the best surgeons, that would be a different story I believe with Dr Sippy that it is a medical disease primarily, a bacterial disease perpetuated by chemical agencies, and that the treatment should be primarily chemical I do not believe in the radical operation The results were better in my early cases of gastric and duodenal ulcer in which I did not excise the ulcer than where I excised it Of course, if you suspect that a gastric ulcer is going to be malignant, or if it has a large crater which cannot be collapsed in any way, operation is indicated The whole question of dealing with these cases is that we must perfect our technic no matter whether we treat medically or surgically We should give the medical men the first chance If they are competent they will get a good percentage of cures In my last 119 cases there has been one death after gastro-enterostomy alone That is not a mortality which should bother us It is no greater than that with medical treatment The majority of cases will be better treated by that method My plan is to do a gastro enterostomy and then await results Excision should be very carefully guarded and watched I believe, too, that the complete removal of the pylorus is better treatment because the other does not cure the ulcer Pylorectomy as done now is undoubtedly a better plan of treatment

DR SEALE HARRIS, Birmingham, Ala Dr Alvarez brought the Bible into this discussion, and I think I can quote a passage from the Bible which fits most of the patients with gastric and duodenal ulcer It is about the woman whom Christ healed at the well, who "had suffered many things at the hands of many physicians until she had spent all of her substance and she was neither better, but rather grew worse" I think that most of the ulcer patients who come to us have gone through that period The reports of the Mayos a few years ago stated that the average length of time that their ulcer patients had had symptoms was more than nine years A report of 1,000 cases studied by Finney and Friedenwald showed that their patients had symptoms probably due to ulcer for ten years In a study of 500 of my cases I estimated that they had had ulcer symptoms for five years The most important problem in handling ulcer patients is to make an early diagnosis and that depends to a great extent on the diagnostic skill of the gastro-enterologist or the physician and also on his interest in the subject I had an experience during the World War that illustrated this pronouncedly We were supposed to have a gastro-enterologist assigned to each of the army hospitals In inspecting these hospitals I went first to the hospital at Camp Devens There a gastro-enterologist was placed in the ward and he had about fifteen cases of gastric ulcer, which were proved by roentgen ray and occult blood in the stool and other symptoms and signs I then went to Camp Dix, where the gastro-enterologist had been assigned to drill physicians to teach them to be soldiers There was only one ulcer case in the 40 000 soldiers there I went to Camp Green, and there the gastro enterologist had about twenty cases of ulcer in the hospital There were very few cases of ulcer operation in soldiers during the World War Textbooks will have to be rewritten before many cases of gastric and duodenal ulcer diagnosis will be made early The triad of symptoms, pain vomiting and hemorrhage, is usually considered pathognomonic in ulcer They are all late symptoms, usually not always In my series of cases less than 10 per cent of the patients had hemorrhage, and nearly all had symptoms of ulcer over a period of a number of years before the hemorrhage occurred Pain may never be present in ulcer as

surgeons know who operate in cases of perforation of the stomach in which the patient had no symptoms until the perforation occurred One diagnostic point I should like to bring out is the syndrome of the so-called chronic appendix About 50 per cent of patients with ulcer who come to me have first had an appendectomy with a small incision in the right lower quadrant of the abdomen The surgeon who operates in a case of chronic appendicitis, so called, with a small McBurney incision in an operation of election, not an acute case, and does not extend that incision up to explore the duodenum, the stomach and the gallbladder, is very remiss in his duty to his patient We shall come nearer approaching the 100 per cent cures when we make the diagnosis early Ulcer is first a medical case, and the number of cures depends to a considerable extent on the technic of the physician The best diet in these cases is my modification of the Lenhartz diet, but we owe a great debt to Dr Sippy for his effort to alkalize the contents of the stomach in the treatment of ulcer

DR J SHELTON HORSLEY, Richmond, Va Dr Brown has struck the keynote of the whole thing He says that in the treatment of gastric or duodenal ulcer we must have medicine *and* surgery, not medicine *or* surgery Almost all acute cases should be treated medically Postoperative cases so far as diet is concerned, should be in charge of a medical man, and, after the patients leave the hospital they should be in charge of a medical man The object of all surgery should be to extirpate or correct pathologic conditions and to restore physiologic conditions as far as possible With this in mind, gastric and duodenal ulcers will fall into definite groups First, simple ulcers in the first inch of the duodenum or near the pylorus best treated by pyloroplasty with excision of the ulcer I do the pyloroplasty I described in 1919 which consists of incising the duodenum not more than 1 inch from the pylorus and making an incision into the stomach at least double the incision into the duodenum The wound is sutured vertically This pyloroplasty is simple, exposes the pyloric portion of the stomach well does not require mobilization of the duodenum and is accompanied by excision of the ulcer If there is marked destructive stenosis or a large ulcer with extensive leukocytic infiltration the disease has gone too far for physiologic restoration, and pyloroplasty is not indicated Gastro enterostomy then gives the best results When the ulcers tend to recur or malignancy is suspected pylorectomy by the Billroth I method, or by the Polya operation, should be done Pylorectomy should not be a routine primary operation for ulcer when pyloroplasty or gastroenterostomy, which are less dangerous may give as good late results If there are adhesions of the duodenum particularly to the gallbladder, that gallbladder should be removed (and the stump should not be drained) at the time of the pyloroplasty This also extirpates a possible focus of infection If there are adhesions elsewhere, gastro-enterostomy should be done As food goes out the normal outlet tugging on adhesions by peristalsis will produce somewhat the same pain as is produced by the ulcer In doubtful cases when it is difficult to decide between pyloroplasty and gastro enterostomy, the former operation should be done, because it is easier and safer to do a secondary gastro-enterostomy than to uncouple the gastro-enterostomy and also do a pyloroplasty

DR ARTHUR DEAN BEVAN, Chicago I have been interested and instructed I think however, that altogether too pessimistic a tone has prevailed We have made great progress in the last twenty years Twenty years ago when a man had a duodenal perforation he died almost invariably Think of the hundreds of lives which have been saved, with perforating duodenal ulcers, in the last twenty years by the knowledge that we have obtained since that time the knowledge that enabled us to recognize this clinical picture and to operate immediately and close the leak and save the patient's life In the last twenty years the medical men have contributed knowledge of great value and have demonstrated their ability to cure these ulcers under medical management I think that is as definite as that two and two make four From now on there will be a stronger tendency for all of us to recognize more fully than we have before the value of medical management and the indications of the different surgical procedures that have been evolved In regard to the operation on the ulcer itself, when the abdomen is opened, one should not forget that probably 20 or 30 per cent of these ulcers are not palpable even when one sees the stomach and duodenum The majority of these, however, become tangible when the duodenum and stomach are mobilized, many of them will be plastered to the pancreas In a good report from the Heidelberg Klinik of 240 resections for duodenal and gastric ulcers it is stated that 30 per cent could not be seen or felt by the surgeon when he opened the peritoneal cavity, the majority were found only after he had mobilized the stomach and duodenum We are making progress, we have made progress that is really worth while, and by this sort of combined research between medical men roentgenologists and surgeons we will place clinical research on the highest plane of all medical work that is being done in medicine

DR CHARLES H MAYO Rochester, Minn I am very glad that Dr Coffey has discussed this note of pessimism with regard to the cure of these patients It would be unfortunate to have a note disseminated since the majority of these patients are eventually cured either medically or surgically There is a remarkable difference between hyposensitive and hypersensitive stomachs Gross ulcers may produce only slight symptoms and some of the patients who are told they have ulcers are complaining not of spells of remissions and periodic attacks but of constant severe pain and they strongly urge that some kind of operation be done Such cases must be investigated carefully Dr Sippy is to be congratulated in having done so much to organize medical treatment of ulcer in this country and it is along the line of his teaching that we have been carrying on the work Certainly it would be a crime to subject some of the medical cases to surgery, because of the long time between attacks and the mildness of the attacks With regard to the patients with achlorhydria and peptic ulcer It is possible that some of these patients had achlorhydria before they developed ulcer Others have a small amount of acid, not to exceed 8 or 9 per cent Such patients are getting the Sippy treatment, but it is not curative With regard to the medical after-care A lot of patients after gastro enterostomy, need no care at all, but I believe that most of them should be directed to their medical attendant for future care if they need it

DR BERTRAM W SIPPY, Chicago While it is true that the results of both the medical and the surgical treatment of peptic ulcer as applied today are very far from ideal, we must not lose sight of the fact that sufficient knowledge of the disease and its treatment already exists to combat it successfully in all but the exceedingly exceptional cases This can be said of relatively few other diseases of serious nature It is commendable to express dissatisfaction regarding our knowledge of peptic ulcer, but there is scant excuse for the general tendency to fail to make proper use of the very important knowledge already acquired of the disease and its treatment In the twenty minutes allotted for my paper I attempted to bring out what appears to me to be the important factors influencing the relative value of such medical and surgical treatment as is now available for the relief of patients afflicted with gastric and duodenal ulcer If the commonly accepted conception of peptic ulcer is correct, namely that hydrochloric acid and the associated digestive action of the gastric juice constitutes one of the greatest known hindrances to the healing of the clinical type of peptic ulcer that is amenable to medical or surgical control then it must follow that in the light of existing knowledge the maximum efficiency in the treatment of the unremoved ulcer cannot be attained without the use of alkalis in carefully regulated doses sufficient to neutralize the free hydrochloric acidity as employed in our clinical work

DR THOMAS R BROWN Baltimore I think that some persons perhaps misinterpreted some of the points of my paper The point I wish to make is that the fundamental principle of diet has been frequent feedings with nonirritating diet the principle which has been prevalent since Leube years ago reported his large series of cases in which he claimed

90 per cent of cures The obligation we owe to Dr Sippy is that he has reiterated the importance of frequent feedings The great advantage of Sippy's technic is its ease of application, it is fool-proof as diets go and that is a great advantage Dr Coffey said that results were obtained by Sippy that are not obtained elsewhere, that is true, but it is not due primarily to the diet but to the associated psychotherapy, the unconscious individualization I am perfectly sure that some patients do better on milk and cream than on cereals and that some do better on cereals than on milk and cream I am not convinced by this discussion as to justifiable optimism concerning the results When I think that more than twenty years ago exactly the same principle of treatment was insisted on by Leube and others in Germany when I realize that exactly the same percentage of cures was claimed by them, I do not see how we can honestly say we have made great progress We do not know the underlying causes, we do not know the fundamental factors A neuropathic may have hypersecretion all his life and never develop an ulcer One may have teeth so foul that they are simply breeding places of all kinds of streptococci, and yet have no ulcer Frankly, we do not know why an ulcer does develop How can any one be really optimistic when he remembers that Kocher, in reporting his great series of gastro-enterostomies said that practically every patient was cured, and at the same time Mathieu reported his hundreds of cases similarly headed with not one who had not some symptoms left behind? We have made progress but we honestly owe most of this to the surgeons, and, although I am not a surgeon, I believe the major knowledge has come from our surgical brethren from their correlation of preoperation signs and symptoms with operative findings I think that every clinician who has made real progress has done so by following up operative cases We have made progress in surgical technic tremendous progress, we have made progress along diagnostic lines, notably radiologic, and the realization of the value of periodicity of symptoms in ulcer, but why an ulcer should heal in the autumn and not break out until the spring we do not know One of the additional reasons for surgical treatment in these chronic conditions is that we as Americans do not take kindly to supervision We are hard to handle although a person of great personality may keep a patient on a regimen for years But after all, we are still waiting for some one probably not a medical man or a surgeon, but some man experienced in biochemistry and bacteriology, who will tell us why these ulcers develop Until then I feel that we shall make a great deal more progress by exhibiting humility for what we have not done rather than enthusiasm for what we have done

REPORT OF AN OUTBREAK OF BOTULISM

CHARLES G BEALL M D
FORT WAYNE, IND

March 11, 1922 at 1 p m, a meal was served, at the Lakeside Hospital at Kendallville, Ind, of canned salmon and canned spinach Within from twelve to twenty-four hours nine persons, all of whom had partaken of this meal, and all of whom had certainly partaken of the spinach, developed typical symptoms of botulinus poisoning, consisting of abdominal cramps, vomiting, diplopia, ptosis, dysphagia and aphonia All persons who ate some of the spinach developed symptoms No one in the hospital became ill who had not partaken of the spinach, and there were four or five, though they did eat the salmon Antibotulinus serum was requested by telegraph from Prof Robert Graham at the University of Illinois thirty hours after the spinach was eaten At the same time a similar telegraphic request was sent to Dr G W McCoy, director of the Hygienic Laboratory, Washington, D C The first doses were given within forty-nine hours of the time the spinach was eaten

REPORT OF CASES

CASE 1—Mrs W, aged 28 on whom colporrhaphy had been performed, March 8, and whose convalescence had been normal ate spinach, of unknown amount The symptoms were very similar to those in Case 2, but more severe At 6 a m and 1 p m, March 12, the patient had respiratory failure, and artificial respiration had to be started March 12, at 8 p m she was totally blind, and there were marked ptosis, dysphagia, complete aphonia, and mydriasis, the edges of the optic disks showed blurring and some hyperemia, she barely moved the jaw and the tongue could not be protruded She died, March 12, at 9 p m

CASE 2—Mrs H, aged 35, who had undergone colporrhaphy March 8 with normal convalescence, had eaten two teaspoonfuls of spinach March 12 at 1 a m, she began to complain of dizziness, nausea, vomiting and griping pains in the abdomen A few hours later she developed dysphagia, and twice had an almost fatal strangling spell when attempting to drink water She also had partial aphonia, burning in the epigastrium, and dryness of the throat Examination, at 8 p m, revealed masklike expression, marked ptosis mydriasis reaction of pupils slightly to the light, partial aphonia slight conjunctival injection, and cold body The condition became progressively worse Treatment consisted of castor oil and enemas and digitalin hypodermically March 13 at 2 p m 10 c c of Type A serum was administered hypodermically All symptoms progressed rapidly, and the patient died at 7 p m, March 13

CASE 3—Mrs B aged 62 a cook at Lakeside Hospital, had eaten two sauce dishes of spinach At 1 a m, March 12 she developed dizziness vomiting, griping pains in the abdomen marked ptosis of the eyelids amblyopia, diplopia, mydriasis aphonia dryness of the mouth, marked restlessness and orthopnea All these symptoms became progressively worse and the patient died, March 13, at 2 p m

CASE 4—Miss H aged 35, a nurse, had eaten a sauce dish of spinach Symptoms began at 5 p m March 12, with dizziness, transient amblyopia and diplopia, and abdominal cramps March 13 the condition became worse, with development of dysphagia, dryness of the throat speech difficulty and mydriasis Urinalysis revealed specific gravity, 1 027, no albumin and no sugar March 12, at 2 p m, 10 c c of serum Type A was given March 14 at 4 a m the patient swallowed water and talked better, 10 c c of serum was given March 14 at 9 30 a m, 10 c c of Type A serum was given and at 2 p m 10 c c In addition, she was given castor oil digitalin and morphin The symptoms became progressively worse, and the patient died at 3 30 p m, March 14

CASE 5—Miss B, aged 26, a nurse, had eaten a sauce dish of spinach March 12, at 5 p m, she developed dizziness nausea cramps in the abdomen, amblyopia diplopia, dysphagia mydriasis and partial aphonia Urinalysis revealed specific gravity 1 029, no albumin and no sugar Castor oil and enemas were given At 3 p m, March 13, 10 c c of Type A serum was given, and at 10 p m 15 c c The patient could no swallow, and was barely able to talk At 4 and at 9 30 a m, March 14 10 c c of Type A serum was given, and at 11 p m 40 c c of mixed Type A and B serum March 15 the symptoms began to improve The patient left the hospital March 28 still weak with slight symptoms of "limber" neck May 6, she reported that she still had occasional abdominal cramps, and, when tired, the neck muscles became very weak

CASE 6—Mr N, aged 50 a patient at Lakeside Hospital, with fractured hip had eaten a sauce dish full of spinach March 12 at 2 p m, he developed symptoms of nausea, vomiting, dizziness, cramps in the bowels, amblyopia, dysphagia, aphonia dryness of the mouth, and complete ptosis of the left eyelid Urinalysis revealed specific gravity, 1 030 no albumin, and no sugar Castor oil and enemas were given

March 13, at 2 p m, 10 cc of Type A serum was given, at 10 20 p m, 15 cc, at 4 a m, March 14, 10 cc, and at 9 30 a m, 10 cc At 11 p m, 40 cc of mixed Type A and Type B serum was given March 15, the patient was better He continued to improve, and was well at the end of a month

CASE 7—Miss S, aged 26, a nurse at Lakeside Hospital, had eaten a few bites of spinach March 12, at 5 p m, dizziness, nausea, vomiting, abdominal cramps, slight amblyopia transient diplopia, later dryness of the mouth, slight aphonia and mydriasis developed All these symptoms were more marked the next day Urinalysis revealed specific gravity, 1 028, no albumin, and no sugar March 13, at 2 p m, 10 cc of Type A serum was given, at 10 20 p m, 15 cc, March 14, at 4 a m, 10 cc, and at 9 a m, 10 cc At 11 p m, 40 cc of mixed Type A and Type B serum was given March 15, the symptoms were less severe, and from that date there was a gradual improvement in all the symptoms April 15, the patient still had slight transient amblyopia, slight dysphagia, and prickly sensations in the arms May 10, the throat still became quite dry, and the patient was rather weak

CASE 8—Miss F, aged 30, a nurse, had eaten four teaspoonfuls of spinach The symptoms began March 12, at 7 p m, with dizziness and nausea, later vomiting, no dysphagia, no aphonia and no diplopia She was given 10 cc of Type A serum, March 12, at 9 p m Symptoms of dizziness and cramps of the bowels continued for about two weeks At present the patient is perfectly normal

CASE 9—Dr G, aged 48, ate two teaspoonfuls of spinach, at 2 p m, March 12, and three hours later began to take castor oil, Epsom salt and enemas because of the symptoms of the other patients Urinalysis revealed specific gravity 1 028, no albumin, and no sugar March 12, at 8 p m, 10 cc of Type A serum was given Later, slight symptoms of amblyopia developed and the patient had cramps in the bowels for about ten days At present he feels normal, except that he has not quite the usual amount of ambition

The serum was given subcutaneously All the patients who lived developed varying degrees of urticaria from seven to ten days after the serum was given The Type A serum was furnished by Professor Graham, and the polyvalent serum Types A and B was furnished by Dr J C Geiger of the U S Public Health Service, who arrived in Kendallville, March 14, with a supply of serum prepared by the New York Board of Health

ANIMAL EXPERIMENTS

A guinea-pig, March 13, at 4 p m, was given, by mouth, about 1 dram (4 gm) of suspected spinach In the morning the pig seemed "dopy," and could not use the hind legs well There were violent twitchings and tremblings if forced to walk A peculiar "croakiness" of the voice was noted The animal grew rapidly weaker, and convulsive movements were more marked It died, 10 a m, March 14 Necropsy revealed engorgement of the blood vessels, congestion of the internal organs, especially the liver and kidneys, and marked congestion of the lungs The lower bowel was empty The upper bowel was distended with gas

A guinea-pig was injected intraperitoneally, March 14 at 10 a m, with 0 5 cc of saline extract of the suspected spinach Within an hour the guinea-pig had developed the peculiar "croakiness" of voice, but this was the only noticeable symptom up to 6 p m of that day The guinea-pig was found dead at 8 o'clock the next morning Necropsy revealed congestion of the liver, kidneys and lungs The lower bowel was empty The upper bowel was distended with gas

A guinea-pig injected at the same time with a small amount of saline extract of salmon developed no symptoms

A guinea-pig injected, March 15, with a mixture of 0 5 cc of saline extract of the spinach and 1 cc of Type A antibotulinus serum developed a slight "croakiness" of the voice and some diarrhea, but these symptoms were off in a few days, and the animal seemed as well as usual Necropsy, March 24, revealed no congestion of the internal organs, but there was engorgement of the blood vessels of the intestines and the abdominal wall There were numerous adhesions between the intestines, and a portion of the bowel was much distended with gas

A chicken fed 1 dram (4 gm) of the spinach, developed no symptoms

Dr Margaret Grant conducted these experiments

A specimen of the spinach and the salmon had been sent to Dr Graham, and on March 15 he reported the spinach to contain Type A botulinus toxin Dr Geiger also isolated *B botulinus* from the spinach, of which the minimal lethal dose for mice proved to be something between 0 0001 and 0 00001 c c

Two cans of spinach, the last of the hospital supply, had been opened two hours before using One of the cans looked perfectly normal, the other one showed a very slight amount of bulging at one end None of the partakers of the spinach noticed anything peculiar about the taste As soon as the disease was recognized, the supply houses in Kendallville readily agreed to hold all cans from this lot, and Mr Sweitzer of the Central District of the United States Department of Agriculture then traced and held all cans of this batch No more known cases have developed

Clinical Notes, Suggestions, and New Instruments

A CASE OF QUININ POISONING

CHARLES D LEACH, M D HUCHOW CHINA

Although cinchonism is of common occurrence, especially in malarial regions, I believe that severe cases of acute poisoning by quinin are not frequently reported Therefore this case may be of interest

A boy, aged 3 years and 4 months, found a box containing sugar-coated 2-grain quinin pills, April 15 1922 He ate a large number, probably not less than twenty or more than a hundred Finally he bit into one, and came to me for relief I gave him a dose of castor oil and made him vomit I did not see any pills in the vomitus, and concluded that probably he did not swallow any, after all That was about 1 p m In less than an hour he complained of severe pain in the general region of the umbilicus He had a normal bowel movement, after which he vomited until he had emptied his stomach of a hearty meal which he had eaten just before he swallowed the pills The vomitus contained partly dissolved pills

The patient was put to bed, but before his clothing could be removed he began to show signs of drowsiness and there was an irregular shaking of the head from side to side together with twitching of the muscles of the face I passed a stomach tube and washed out the stomach After this procedure he was somewhat cyanotic, but his pulse seemed to be in fair condition I then gave him a plain water enema followed by a soapstick to stimulate peristalsis and help in the elimination of the quinin The water returned nearly clear By that time he had passed into a semicomatose condition He continued to vomit at intervals of about fifteen minutes during the rest of the day The intervals gradually increased until midnight, after which time he vomited only once

About 4 o'clock in the afternoon I gave him a small dose of sodium bromid to combat the cinchonism The symptoms that I observed were vomiting, stupor twitching of the muscles around the mouth, combined with slow shaking of his head either from side to side or up and down occasional

spasmodic contraction of the flexor muscles of his limbs, flushed face, and dilated pupils Owing to the condition of stupor it was difficult to determine to what extent sight and hearing were affected, but he answered his mother when she spoke in a low tone about two hours after the symptoms began During the night, however, he did not respond when spoken to, or give any sign of either hearing or seeing Understanding that quinin has a tendency to depress reflex action, I tested him by scratching the sole of his foot Usually he is very sensitive to the least 'tickling" of his feet but this time I was not able to cause him to move his foot

As the vomiting ceased during the night, the patient rested more and more quietly, and the latter half of the night he slept very soundly He awoke soon after daylight and for the first hour seemed quite confused, but gradually became clearer until the mental condition seemed normal The sight and hearing also seemed normal, although he made a remark about thunder that made us think that his ears were roaring

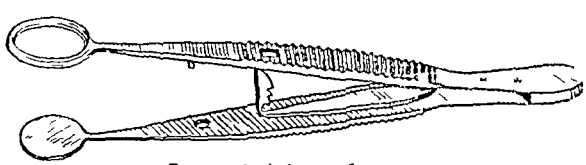
No rash developed after this overdose of quinin, although a year or more previously the patient developed a rash after a therapeutic dose of quinin

IMPROVED CHALAZION FORCEPS

SAMUEL W GREEN, M.D., BROOKLYN

The advantages of this revised instrument are many It enables the operator to complete a chalazion operation more speedily and safely, and with no resulting postoperative trauma to lids

The locking device is regulated with three notches to enable the operator to regulate the tension on different lids and also to hold the instrument on the lid especially if the



Improved chalazion forceps

operator wishes to pick up another instrument and an assistant is not present to hand it to him It saves the task of eversions of the lid so many times, as was experienced with the older instruments when they slipped from the lessening of tension by the operator's fingers It will also be noted that the ring is larger than the disk of the instrument This has been made so as to avoid the strangulation of the lid tissues which was too often a result from the older instruments because the operator may have handled his instrument a little too firmly to prevent it from slipping For the same reason the surface of the ring that approximates the disk has been flattened

All in all, this instrument has proved useful in my chalazion procedures, and may be heartily recommended

161 Clinton Street

Precocious Menstruation—In the first of the two cases reported by S Tronconi in the *Clinica Pediatrica* **3** 199, 1921 the recurring monthly genital hemorrhages in the girl of 6 were not influenced by tonics, arsenic, hot baths, ergot or other measures, but they did not return after a course of treatment with extract of mammary glands In the other child, an infant of 12 months, the genital hemorrhage was more continuous, and the final discovery of a tumor cleared up the case In the first case the hemorrhage returned the sixtieth day after the organotherapy had been suspended The hemorrhage ceased entirely only when enough of the mammary gland extract had been given to overcome the excessive functioning of the ovaries Eighteen months later the child seemed in good condition, but had not grown any taller, and the thyroid had increased in size The precocious development of breasts and growth of body hair had persisted unmodified

Special Article

VACCINATION IN THE PHILIPPINES STILL EFFECTIVE

VICTOR G HEISER, M.D.
Consultant in Health to the Governor General of the Philippine Islands
AND
CHARLES N LEACH, M.D.
MANILA, P. I.

Recently many publications and statements have been circulated throughout the United States alleging that vaccination in the Philippines had not given protection against smallpox Quotations from annual reports of the Philippine Health Service have been cited by the antivaccinationists showing that more than 50,000 deaths from smallpox have occurred in the Philippines during the last few years The inference is that these deaths have occurred among the vaccinated The inference is entirely without foundation, as the direct opposite actually occurred The deaths are recorded almost entirely among the unvaccinated

It may be recalled that during the Spanish regime and for some years after the American occupation more than 40,000 deaths from smallpox occurred annually in the Philippines When systematic, properly controlled vaccination was instituted, the disease disappeared in the wake of the vaccinators A striking example of this fact is furnished by the mortality statistics for the provinces surrounding Manila The death rate from smallpox in these provinces was reduced from 6,000 annually to zero, after a thorough campaign of vaccination In the city of Manila there was not a death from smallpox for seven years prior to 1914 When the vaccination of the entire Philippine population was completed, so far as practicable, instead of 40,000 deaths a year there were only a few hundred, and these occurred in remote places among persons whom it was impossible to reach with potent lymph The temperature in the Philippine Islands ranges from 90 to 100 F nearly the entire year, with the exception of the mountain regions of Northern Luzon Vaccine under such conditions of temperature would remain potent only a few days after it left the ice As ice is not obtainable in many sections of the Philippines, it was not possible to supply effective lymph, hence many remained unprotected, and among these the disease was kept alive

After 1914, general vaccination of new-born children and other unprotected persons was not effectively carried out It is true that the records show that sufficient quantities of vaccine were made and sent out, but it is likewise true that the results of careful investigations instituted recently show that much of the vaccine was never applied, or not used until it had deteriorated Minor health officials and vaccinators found it much easier simply to report vaccinations than actually to carry out the procedure Quantities of vaccine virus were actually discovered in waste paper baskets In some instances many more vaccinations were reported than would have been possible with the quantity of vaccine sent to the vaccinators In another instance the total vaccinations reported in Pangasinan exceeded the population by 50,000 Thus, a huge unvaccinated population came into being, and it was only necessary for the ever present spark to fall among them to start the conflagration The spark fell, and in consequence more than 50,000 unfortunate victims have lost their

lives It is extremely regrettable that, through the circulation of half truths in the United States regarding vaccination in the Philippines, a strong effort is being made to influence legislatures to discourage vaccination against smallpox This can only result in the sacrifice of more lives When the situation in the Philippines was finally revealed, active vaccination was resumed, and the islands are again almost free of smallpox Fortunately in recent years methods have been discovered for making vaccine that will remain potent under tropical conditions Consequently, it is now possible to reach many persons who were inaccessible before

TABLE 1—AGE INCIDENCE AMONG THOSE ATTACKED IN PANGASINAN

	Under 1 Year	1 to 5 Years	5 to 10 Years	10 to 15 Years	15 and Over	Total
Number	1 500	4 381	2 182	701	348	9 115
Per Cent	16 46	48 06	23 94	7 69	3 82	100 0

TABLE 2—CASES AND DEATHS FROM SMALLPOX AT MANILA 1918

	Smallpox							
			Vaccinated					
	Total		Never		Unsuccessfully		Successfully	
Age	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Under 1 year	181	161	134	129	37	32	10	4
1 year	238	217	160	155	52	48	21	14
2 years	173	150	109	100	53	47	10	3
3 years	149	123	82	73	49	42	18	8
4 years	113	91	82	62	31	29	21	0
5 years	91	61	57	44	25	16	9	4
6 years	58	37	33	23	16	9	9	5
7-10 years	80	39	42	26	22	11	16	2
11-15 years	47	22	25	16	8	5	14	1
16-20 year	88	47	44	31	20	8	24	8
21-25 years	41	21	26	15	11	5	14	1
26-30 years	18	8	8	3	5	5	3	0
31-40 years	12	7	7	2	1	0	4	1
41-50 years	6	1	4	1	1	1	1	0
51-60 years	3	0	0	0	0	0	3	0
Total	1,326	989	813	650	336	249	177	90

TABLE 3—SUMMARY OF TABLE 2

Smallpox Cases		
Among Successfully Vaccinated	Among Others	Total Cases
177	1 149	1 326
Percentage of cases among unprotected		87
Percentage of cases among protected		14

Smallpox Deaths		
Among Successfully Vaccinated	Among Others	Total Deaths
90	899	989
Percentage of deaths among unprotected		93
Percentage of deaths among protected		7

Table 1, furnished by Dr Salvador V del Rosario, assistant director of health, shows the age incidence among those attacked in the typical province of Pangasinan It will be seen that more than 88 per cent occurred within the age groups that should have been vaccinated since 1914 The history in the other provinces is more or less the same Still more interesting, however, is the effect and incidence of smallpox among the vaccinated and the unvaccinated The Philippine Health Service furnished figures for the city of Manila for 1918, which is the year that the smallpox outbreak reached its greatest proportions (Table 2) Reducing Table 2 to simpler terms gives the result presented in Table 3

The completed records for the provinces are not yet available but those which have been examined show practically the same results as Manila and it would therefore be useless repetition to reproduce them

In brief, then the Philippines, since 1918 have had one of the greatest smallpox catastrophes of modern times Fifty thousand people perished On the basis of population, the islands lost ten times as many lives from smallpox during 1918-1920 as the United States lost from casualties in the World War

The death toll in the Philippines could have been avoided The figures conclusively show that 93 per cent of the deaths occurred among the unvaccinated

The 7 per cent that occurred among the successfully vaccinated would probably have been still further reduced if a virulent strain of smallpox had not developed among the unvaccinated and thus produced an infection which the ordinary immunity of the vaccinated was unable to neutralize

There are many side lights that confirm the efficacy of vaccination against smallpox in the Philippines The crews of interinsular vessels numbering many thousands were regularly vaccinated prior to 1914, and for ten years there was not a single death from smallpox among them After 1914 the vaccination of new seamen entering the service was not regularly carried out In 1918 no less than fifteen vessels had smallpox among their crews Vaccination in the middle of the outbreak of 1918 was vigorously resumed and no further cases occurred, although smallpox was very prevalent in Manila and at ports of call

The Chinese in the islands number more than 30,000 Owing to the strict registration which is maintained, it is comparatively easy to locate them and they are regularly vaccinated There was scarcely any smallpox among the Chinese, although it was raging all about them

SUMMARY

The recent outbreak of smallpox in the Philippines, in which more than 50,000 persons lost their lives, again confirmed the great value of vaccination as a protective agent against smallpox The overwhelming evidence made up of some seven million vaccinations performed prior to 1914, which resulted in bringing smallpox under complete control, has been further supplemented by the outbreak of 1918 In this later outbreak, 93 per cent of all deaths from smallpox occurred among those who were unprotected by vaccination

The deaths among the remaining 7 per cent were largely due to a virulent strain of infection which probably developed among the unvaccinated

The records further show that 89 per cent of the cases of smallpox occurred among unvaccinated children the majority of whom were born after 1913

When effective systematic vaccination was resumed in 1918, smallpox again disappeared in the wake of the vaccinators The disease showed no signs of abating anywhere until vaccination in the stricken areas was again carried out

CONCLUSIONS

1 Vaccination is the greatest safeguard against smallpox

2 In countries like the Philippines, tremendous catastrophes occur unless the entire population is thoroughly vaccinated against smallpox

3 Millions of vaccinations have been made in the Philippines without the loss of life or limb, or any observable effect on health

4 In the past, those who have advocated the abolition of vaccination have been the cause of many of the deaths among the unvaccinated In view of the frightful loss of life that may occur in smallpox epidemics they are assuming a grave responsibility indeed if they continue their campaign

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SATURDAY, JULY 1, 1922

FACTORS IN THE CAUSATION OF BOTULISM

No one who has followed the recurring reports of botulism outbreaks in this country can have failed to notice that certain articles of food are implicated much more frequently than others First come the foods preserved by heat Since the air is expelled in the heating process and since the containers of these foods must be hermetically sealed, it is easy to see that the anaerobic conditions so produced provide particularly favorable opportunities for the growth of any *Bacillus botulinus* spores that have survived the heating process As with other bacteria, so here, growth is hindered by a high concentration of sugar or brine or by a marked acid reaction Botulism from jam or candied fruits or from brine-pickled green olives is unknown, indeed, the disease has been very rarely attributed to the use of any sort of preserved fruit

Since botulism from canned foods is always traceable to imperfect sterilization, to failure to destroy the spores of *B botulinus,* it is not surprising that a relatively high proportion of botulism outbreaks should have been traced to foods canned in the household, where facilities for maintaining cooking temperatures considerably above the boiling point are not always readily available Commercially canned foods, however, are by no means exempt, and several instances are now on record in which foods canned on a large scale by modern processes have given rise to cases of botulism The Kendallville, Ind, outbreak, which is described in this issue,[1] is an example of poisoning due to a commercial product

While the reasons for the apparently greater liability of some foods to contain the botulinus toxin are quite obscure, and while the conditions under which botulinus toxin is produced are possibly connected with the composition of the foodstuff and still remain to be worked out, there are other instances in which a plausible explanation may be advanced It is evident that relative ease of heat penetration must be an important factor in attempts at heat sterilization Certain foods are much more easily dealt with in this respect than others Heat penetration is hardly a factor in canning soups, for example From this standpoint it is tempting to conclude that the recent outbreaks of botulism traced to eating canned spinach, such as the one at Kendallville, afford an illustration of the importance of securing adequate heat penetration Spinach and some other foods are recognized as presenting special difficulty There is no doubt that with such foods the size of the container and the amount of material in each can are important factors in the possible causation of botulism It is reassuring to find that the interests concerned, including state and national health authorities, are alive to the difficulty of the situation, and that suitable standards for the size of the can and amount of material as well as for sterilizing temperatures are being strictly applied

1 Beall, C G Report of an Outbreak of Botulism this issue p 38

SUNLIGHT AND MEDICINE

Although light is an almost omnipresent factor in everyday life, its possible influence on biologic processes other than vision received very little scientific consideration until recent years The reactivity of the skin to light and the relation of this to pigmentation has been recognized and given some consideration in climatology The work of Finsen in his Light Institute at Copenhagen probably represents the first systematic effort to study the biologic effects of light and its possible therapeutic uses[1] Of late, the profound importance of this subject has been forcibly brought to public attention through the indisputable demonstration by several groups of investigators both here and abroad that sunlight and notably the ultraviolet rays have a marked curative effect on certain forms of rickets, as well as a prophylactic influence where this disease is liable to develop[2] The influence of photodynamic substances that may sensitize the organism to light has been noted from time to time in THE JOURNAL

In the effort to elucidate the possible chemical reactions associated with these various light effects, attention was focused first of all on the ultraviolet rays There is evidence on record that these may act on proteins so as to render them less soluble Solutions of albumin in quartz vessels behave like solutions of the more readily precipitated protein globulin after being subjected to ultraviolet rays Ordinary glass is a barrier to these potent rays, a fact which should always be borne in mind in contrasting the possible effects of sunshine indoors and outdoors The harmful effects of light on bacteria may depend on such changes in the protein constituents of their living protoplasm

Recently Young[3] has found in the Biochemical Laboratory at Cambridge University in England that proteins such as serum albumin and egg albumin which

1 Clark Janet H The Physiological Action of Light Physiol Rev 2 277 (April) 1922

2 Hess A F Newer Aspects of the Rickets Problem J A M A 78 1177 (April 22) 1922

3 Young E G The Coagulation of Protein by Sunlight Proc Roy Soc London (B) 93 235 (March 1) 1922

have been sufficiently purified by repeated crystallization become sensitive to intense light, either sunlight or strong arc illumination, from which the infra-red and ultraviolet rays have been removed The proteins may become denatured and precipitate The reaction and presence of electrolytes play a part in facilitating these unique responses to light It is too early to discuss the theories of these manifestations of radiant energy, but if the preeminent constituents of living cells can be so readily disarranged chemically by light, scientific medicine must become alert to consider what the newer knowledge may ultimately have in store for our profession

ANTHRAX IN AMERICAN TANNERIES

Anthrax in man is a disease of such serious moment that its menace scarcely needs to be emphasized The fact that it is largely confined to persons engaged in certain occupations which favor infection with *Bacillus anthracis* has perhaps tended to obscure the incidence and seriousness of the malady The more recent outbreaks of cases attributable to infection from shaving brushes have tended to arouse a greater interest in the subject and to awaken public health officials in many places from the apparent lethargy in regard to it The United States still lags behind the European countries in preventive legislation relating to anthrax, and in enforcement of active measures to stamp out the disease as well as to protect those most likely to contract it Anthrax in man is most frequently encountered among workers on hides, hair, bristles, wool, etc, and in laboratory workers, veterinarians, meat inspectors, farmers, cattlemen and butchers So-called pulmonary anthrax, which describes the cases arising from inhalation of dust from infected materials, may show a mortality of 50 per cent The type of disease represented by "malignant pustule" is particularly severe Such facts should serve, therefore, to support every effort which industrial hygiene may initiate in the direction of reform

Recently compiled statistics from a representative state may help to give emphasis to what has already been noted In Pennsylvania, according to the investigations of Smyth and Bricker,[1] slightly more than 8 per cent of the 7,458 men engaged in fifty-seven cattle hide tanneries were directly exposed to anthrax risk during the period under consideration In nineteen goat skin tanneries employing nearly 6,000 men, somewhat more than 7 per cent were directly exposed Thus, a total exceeding 1,000 men, or not quite 8 per cent of the employees, was exposed to the serious danger Of these, at least 119 contracted anthrax in the course of the twelve years included in the Pennsylvania study, and four more cases developed in those handling raw hides or skins, making 123 cases in all, or more than 11 per cent of the number of directly exposed tanners Seventy-three of these cases were due to the handling of cattle hides, and fifty to the handling of goat skins One fifth of the patients died

This is not the place to discuss the comparative danger of hides from different sources The fact that during a five-year period a yearly morbidity rate of almost 2 per cent from anthrax among directly exposed tannery employees is on record suffices to point to the lesson Hides and skins imported into this country are supposed to come in under quarantine unless accompanied by a consular certificate stating that they are from a district free from anthrax But the experience of Smyth and Bricker[1] agrees with that of others to the effect that this certification is worse than useless, since it merely establishes a false sense of security among the tanners and freight handlers It is stated that anthrax has been contracted from the handling of both dry and wet salted hides and skins, and from both certified and uncertified stock, and anthrax bacilli have been isolated from both It is high time to give more serious consideration to the anthrax problem The tanneries must no longer be allowed to receive anthrax-infested raw stock

Incidentally, it should be noted that treatment in hospitals has generally been more favorable than the less rigorous therapy of unhospitalized patients The use of antianthrax serum with excision of the local lesion has given good results The Pennsylvania experts particularly recommend the injection of phenol (carbolic acid) solutions of from 25 to 50 per cent strength locally around the area of the initial lesion Early diagnosis, prompt hospitalization if possible, and absolute rest, they conclude, are essential for success in any form of treatment

WATER DRINKING AND HYPERTENSION

Fewer features of clinical medicine are the subject of more vigorous debate and of almost acrimonious discussion than is arterial hypertension With respect to its causes and its therapeutic management, as well as the prognosis of individual cases, the widest ranges of opinion have been expressed Through the development of sphygmomanometry, the rapid, fairly accurate estimation of blood pressure has been made possible for any practitioner Consequently, on the one hand it has been remarked of the simple and most important test for high blood pressure that "any social worker would be the better for knowing it and could learn it in fifteen minutes',[1] whereas, on the other hand, physicians are warned against the fancy that the management of hypertension consists in watching a column of mercury, or that success is measured in millimeters[2]

1 Smyth, H F, and Bricker Elizabeth Analysis of One Hundred and Twenty Three Cases of Anthrax in the Pennsylvania Leather Industry J Indust. Hyg 4 53 (June) 1922

1 Cabot R C A Layman s Handbook of Medicine, Boston Houghton Mifflin Company 1916 p 172
2 Osborne O T and Tibbein Morris Handbook of Therapy Chicago American Medical Association 1920 p 368

This is not the place in which to debate whether permanent pathologic alterations in the blood vessels, nervous reflexes, or poisonous products producing vasoconstriction are the prime factors in the genesis of hypertension, or whether the blood pressure manifestations of acute nephritis, eclampsia or uremia are in any degree due to anatomic changes in the heart or blood vessels It is obviously not without serious moment for the management of the individual case to know the precise pathology and even the ultimate etiology of the condition under observation In the present stage of our knowledge, however, facts are more valuable than hypotheses

Certain striking facts regarding blood pressure have recently been recorded at Aberdeen, where Orr and Innes [3] have observed the influence of increased water ingestion on the blood pressure of some apparently normal subjects and also in pathologic cases in which there was high arterial tension The addition of from 2 to 3 liters (quarts) of water to the normal daily consumption is followed by a distinct fall in both systolic and diastolic pressure The fall is not accompanied by an increase of either the rate or the force of the heart beat, and the decreased pressure is maintained for some time after the extra water has been excreted Clinicians have generally warned against large fluid intakes when the kidneys are incapable of reacting properly, and the therapeutic value of restrictions has been urged by Allen [4] in THE JOURNAL

The British investigators also point out that when diuresis is unable to keep pace with the intake of water, especially in cases of high arterial tension, the fall in pressure is sometimes preceded by a rise beyond the original level, which persists until the bulk of the extra fluid has been eliminated The renal conditions must never be overlooked

However, it is the cases of fall of pressure attendant on water drinking, as well as the reported alleviation of disagreeable subjective symptoms in some of the patients with hypertension studied, that challenge attention The diuretic properties of water taken by mouth are generally recognized Orr and Innes incline to the view that the chief factor in producing the fall of pressure is the elimination of pressor substances that cause arterial constriction and thereby produce an unnecessarily augmented arterial tension Friedrich Muller of Munich long ago expressed the conviction that the same toxic substances which produce uremia may, in lessened concentration, affect the vasomotor center, thus causing a heightened blood pressure By others the seat of origin of the hypothetic toxins or substances with pressor effects has been assigned now to the alimentary tract, now to the tissues themselves The fact that chemical substances like the amins which exert a vasoconstrictor effect in very small doses have been isolated on various occasions has helped to render the theories of a toxemic etiology for certain cases of hypertension more appealing If it shall prove to be true that diuresis induced by water drinking in patients with adequately functioning kidneys serves in reality to "flush out" pressor substances from the system, the discovery will be an important one The present gaps in our knowledge, however, remain conspicuous

3 Orr, J B and Innes I The Effect on Arterial Hypertension of Increased Fluid Intake Brit J Exper Path **3** 61 1922
4 Allen F M Arterial Hypertension, J A M A **74** 652 (March 6) 1920

Current Comment

HYDROGEN SULPHID AS AN OCCUPATIONAL POISON

The possible menace of hydrogen sulphid as a cause of occupational disease has lately been brought into a greater prominence than it has heretofore attained Most physicians think of this foul smelling gas primarily as an artificial laboratory product bearing little if any relation to the work of the everyday world Its toxicity, to a large extent, has been minimized because the objectionable odor associated with sulphureted hydrogen acts as a protective warning to prevent those who become exposed to the gas from inhaling any considerable quantity In certain mines it has become somewhat familiar under the name of "stink-damp," and is found occasionally as an occluded gas in coal seams or places where there is a decomposition of pyrites in the presence of moisture [1] Klein [2] has lately directed attention to the role of hydrogen sulphid as a dangerous component of the gases collecting in sewers, cesspools and similar places in which dejecta are permitted to putrefy without ventilation In the absence of a liberal supply of oxygen, protein material generates, *through the action of anaerobic putrefactive micro-organisms*, a mixture of gaseous products including nitrogen, carbon dioxid, methane, ammonia, hydrogen and hydrogen sulphid The proportions of these components may vary, depending on the bacterial pabulum from which they arise Klein has emphasized the fact, however, that the really toxic menace to persons exposed to such products lies in the hydrogen sulphid, which may attain a concentration as high as 8 per cent by volume Under such conditions there is great danger because of the high toxicity of the gas Usually the danger is minimized because of the low concentrations of hydrogen sulphid concerned Out of twenty-nine cases of poisoning with this product reported by the chief inspector of factories and workshops in England for the years 1908 to 1912, only five were fatal [3] Yet, according to Haggard [4] of Yale University, inhalation of hydrogen sulphid kills in a concentration of 7 parts per 10,000 after the lapse of some time Larger concentrations are followed by more prompt fatalities According to Haggard, and contrary to conventional beliefs, hydrogen sulphid, when inhaled,

1 Kober G M and Hanson W C Diseases of Occupation and Vocational Hygiene Philadelphia P Blakiston's Son & Co p 620
2 Klein W Ueber die Vergiftung durch Einatmen von Kloakengas Deutsch Ztschr f d ges gerichtl Med **1** 228 (April) 1922
3 Kober K M and Hanson W C Diseases of Occupation and Vocational Hygiene Philadelphia P Blakiston's Son & Co p 47
4 Haggard H W The Toxicity of Hydrogen Sulphide, J Pharmacol & Exper Therap **19** 262 (April) 1922

does not form a compound with the respiratory pigment of the blood, hemoglobin, nor does it combine with the sodium of the blood It is transported dissolved as a gas, which the blood has the property of oxidizing to less harmful products if the quantities involved are not so large as to threaten the function of vital organs before the gas can thus be detoxified

THE OCCURRENCE OF EXOPHTHALMIC GOITER

The possibility that despite the fact of their unlike physiologic symptoms some etiologic relationship may exist between endemic goiter and the type of hyperthyroidism known as exophthalmic goiter has more than once been referred to in recent years The incidence of endemic goiter and its geographic distribution are now fairly well known Its greater occurrence inland and away from the seaboard, both in this country and in continental Europe, is recognized, hence the designation of goiter regions has been applied to localities where this thyroid disorder abounds Exophthalmic goiter, if this somewhat inadequate nomenclature may be permitted for the purpose of description, is no longer such a rarity as it was assumed to be a decade or two ago Dependable statistics as to its geographic distribution might help to furnish an answer to the possible relationship of this disease to the other abnormal thyroid conditions Dock [1] has reported that endemic goiter districts are relatively free from exophthalmic goiter, but alleges that this is not true of Switzerland and France, or of the region of the Great Lakes of North America Dock also records the belief that the incidence of exophthalmic goiter is higher in England and on sea coasts than in some continental localities, but is very high in the interior of North America Statistics have just become available from the Medical Investigation Department of Guy's Hospital in London, where Campbell [2] has studied a group of more than a hundred cases, along with statistics from outside places These show that in England exophthalmic goiter is more common in the country than in the towns, more common in the West than in the East, and more common on the sea coast than inland It does not appear, to Campbell, to be specially prevalent in areas in which goiter is endemic This tentative conclusion may not be without significance in future discussions on both of the diseases

THE NATURE OF INSENSIBLE PERSPIRATION IN HEAT REGULATION

Every person continually experiences a loss of water from the skin in quantities that may become not inconsiderable under certain circumstances The cutaneous excretion of water is determined mainly by the need for regulating the temperature of the body, so that the amount leaving by way of the skin depends on the heat production of the body or on the external temperature, and is very little affected by the quantity of fluid consumed Under ordinary conditions, in which no visible collection of fluid on the skin surfaces occurs, the water lost is included in the so-called insensible perspiration According to observations on anomalous persons without sweat glands, the evaporation of water from the nonsweating skin may amount to 800 gm (28 ounces) a day In normal persons it will be noticed that the quantity of water thus given off increases with a rise of environmental temperature slowly up to a certain degree, and then rises rapidly This sudden increase occurs simultaneously with the activity of the sweat glands, resulting in the formation of visible sweat The insensible perspiration is therefore conventionally regarded as represented by evaporation of water from the surface of the cuticle itself apart altogether from the sweat glands If the removal of heat through the loss of water by insensible perspiration is a purely physical process, as it is commonly assumed to be, the transfer should be affected not only by temperature factors but also, to some extent at least, by the humidity of the surrounding air If the skin is to be regarded, so far as the insensible perspiration is concerned, merely as a membrane through which water is diffused into air obviously the process should be retarded when the external medium tends to be more saturated with moisture Several investigators have found, however, that in fact this is not necessarily the case Most recently, for example, in Schwenkenbecher's clinic at Marburg, Moog [1] has observed that at a fairly constant temperature of 25 C (77 F) increases of from 30 to 40 per cent in the relative humidity may actually be attended by increased invisible perspiration through the skin If such data are accurate, one cannot escape the conviction that this loss, instead of being merely a purely physical process dependent on the composition and temperature of the air, is a physiologic one varied by the necessities of heat regulation in the body Perhaps we may think of it, with Schwenkenbecher, as an insensible secretion of sweat rather than mere diffusion of water through the skin membrane

HARMFUL AMINS

Most students of the problem of intestinal obstruction—and there have been many—have come to the conclusion that one or more potent substances arise within the bowel under such conditions and are responsible for the characteristic toxic symptoms Whether the poisons are of bacterial origin or owe their genesis to aseptic changes in the mucosa and alimentary secretions remains debatable Whipple and his collaborators have been inclined to identify the toxins as proteose in character but their conclusions have been challenged Recently, however, evidence secured from several independent sources suggests that histamin, the amin derived from the amino-acid histidin, which in turn is a familiar cleavage product of proteins, is one, at least, of the possible chemical offenders Histamin, like other amins may arise through putrefactive changes in protein-containing materials It is among the more

1 Dock George in Osler's Modern Medicine 4 417
2 Campbell J M H Some Aspects of Exophthalmic Goiter Quart. J Med 15 55 (Oct.) 1921

1 Moog O Der Einfluss der relativen Luftfeuchtigkeit auf die unmerkliche Hautwasserabgabe Deutsch Arch f klin Med. 138 181 (Jan 24) 1922

potent of the bases to which bacteria thus give rise Micro-organisms capable of producing the amin have actually been isolated from the intestinal contents Lately, Meakins and Harington [1] in England have found histamin in obstructed colons in man, and now Gerard [2] of Chicago reports the occurrence of the same depressor base in experimentally produced contents of obstructed intestinal loops It would be unjustifiable to charge histamin or any of its companion products [3] with actual complicity in many of the ills of life referable to the bowel, yet the repeated finding of such potent products there points to the possibility that they may at times actually exert untoward effects Bronchial asthma has been described as an aminosis or amin intoxication, and urticarial reactions have also been associated with histamin [4] These amins deserve serious attention as possible pathogenic factors

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC)

ARIZONA

State Medical Meeting—At the annual meeting of the Arizona State Medical Association, in Prescott, June 14-16, under the presidency of Dr A L Gustetter, Nogales, the following officers were elected for the ensuing year president, Dr Harry T Southworth, Prescott vice presidents, Drs Charles A Thomas, Tucson, Roderick D Kennedy, Globe, and Arthur C Carlson, Jerome, treasurer, Dr Alvin T Kirmse (reelected), Globe and secretary, Dr Delamere Harbridge (reelected), Phoenix A motion by the president to secure the privilege of prescribing alcoholics was promptly tabled Resolutions were adopted to oppose the Sheppard-Towner bill and all "state medicine," and plans were made for a women's auxiliary to the state association

CALIFORNIA

Japanese Physician Sentenced—It is reported that S Wahaume, a Japanese physician was sentenced to five months in prison for practicing medicine without a license Wahaume was arrested in Sacramento several months ago on a nonlicense charge and forfeited a $500 bail when he failed to appear for trial

Hospital News—The Bard Memorial Hospital Ventura, will in future be known as the Big Sisters' Hospital——Dr James A Ramsay has assumed control of Hillcrest Sanatorium, Hemet, relieving Dr Verdo B Gregory, who formerly had charge of the institution——The present University of California Student Hospital, San Francisco, has been declared inadequate, and plans are under way to construct a new hospital of 100 beds, to be used by the faculty and students of the university Dr Robert T Legge is director of this hospital——Dr Alfred C Reed has resigned as director of the Ross Sanatorium

COLORADO

University of Colorado — The Denver city council announced, May 26, that an appropriation of $20 000 will be made as the city's contribution to the proposed University of Colorado Medical School and state hospital, which will be constructed in Denver This completes the $200,000 which it was necessary to obtain through popular subscriptions in order to take advantage of sums donated by the Rockefeller Foundation, the Carnegie Foundation and the Colorado state legislature, aggregating more than $1,500,000

CONNECTICUT

Yale University—At the commencement exercises of the university, President Angell announced that additions to the university funds for 1921 amounted to more than $5,500,000 The principal gift was the Harkness Fund of $3,000,000 Gifts and pledges made during the year for additional endowment of the school of medicine, toward the total of $2,000,000 needed to secure the contingent pledge of $1,000,000 from the general education board, total $390,000 This amount includes a pledge, received June 21, of an anonymous gift of $100,000, to be added to the principal of the Anna M R Lauder Foundation in the school of medicine, the income of which is to be used each year for the purposes outlined in the letter covering the original gift of this fund for the establishment of the department of public health In view of the continued progress made by the school of medicine, and of the gifts evidencing the interest of Yale's friends in its development, the general education board has extended the time for fulfilling the conditions of their appropriation from June 30, 1922, to June 30, 1924

DISTRICT OF COLUMBIA

Legislation Proposed for Tuberculosis Hospital—A bill introduced into the lower house of Congress by Representative Sproul provides for the erection of a hospital for the care of tuberculous pupils of the District of Columbia The sum of $150,000 is appropriated to carry out the proposed construction

GEORGIA

University of Georgia—Five additional professors for the medical department of the university were recently announced as follows Dr Eliot R Clark from the University of Missouri, professor of anatomy, Dr Richard V Lamar, professor of pathology, Dr Virgil P Sydenstricker, Augusta, professor of medicine, Dr Ralph H Chaney, Rochester, Minn, professor of surgery, and Dr Harry B Neagle, Adrian, Mich, professor of preventive medicine and hygiene All the present faculty were reelected——It was announced by the university faculty at the annual commencement exercises that the medical department of the university has been given $40 000 a year by the Rockefeller Foundation, the Carnegie Foundation, and the city of Augusta, through popular subscription, for placing the departments of medicine and surgery on a pay basis, and for general expenditures

ILLINOIS

Honor for Dr Humiston—At the eighty-fifth annual commencement exercises of Marietta College Marietta, Ohio, Dr Charles E Humiston of Chicago received the honorary degree of doctor of science, in "recognition of his efforts to raise the standard of the medical profession in all parts of the country"

New Appointments—Dr Charles Lieber has been appointed county physician of Lake County to succeed Dr Albert E Brown, who resigned recently——Dr Samuel F Paul was renamed for Rock Island and South Rock townships——Dr J M Wood has been appointed city physician of Moline——Dr John H Fowler was recently named for East Moline and Hampton

Chicago

Rush Medical College Alumni Elect Officers—At the annual meeting of the Alumni Association of Rush Medical College, held in Chicago recently, the following officers were elected president, E L Kenyon, vice presidents, F B Moorehead D C Wherritt and T C Galloway, treasurer, C O Rinder, secretary, C A Parker, necrologist J F Waugh, and directors for three years, H G Wells and G H Coleman

Donations to University—By the will of Seymour Coman of Chicago, University of Chicago is made trustee of his residuary estate, estimated to be approximately $145 000, the net income to be used for scientific research, with special reference to preventive medicine and the cause prevention and cure of diseases This bequest to be known as the Seymour Coman Research Fund——By the will of Alexander D Thomson of Duluth, Minn, the sum of $50,000 is

1 Meakins J and Harington C R J Pharmacol & Exper Therap **18** 455 (Jan) 1922
2 Gerard R W Chemical Studies on Intestinal Intoxication I The Presence and Significance of Histamine in an Obstructed Bowel J Biol Chem **52** 111 (May) 1922
3 Barger, G The Simpler Natural Bases London, Longmans Green & Co 1914
4 Sollman Torald and Pilcher J D J Pharmacol & Exper Therap **9** 391 (April) 1917

bequeathed to the university for use in the medical department to be expended under the direction of Dr Wilbur E Post and Dr Herman L Kretschmer, both of Chicago

IOWA

Personal—Dr Walter L Bierring, Des Moines sailed for Scotland, June 27, to attend the ceremony of his election as an honorary member of the Royal College of Physicians Edinburgh——Dr Jefferson B Blything has been reappointed city physician of Davenport——Dr Henry Albert, head of the department of bacteriology at the University of Iowa, Iowa City, has resigned on account of his health and will become head of the state board of health laboratories of Nevada——Dr James W Osborn was recently elected president of the Des Moines health center

KENTUCKY

Personal—Dr John M Williams has been elected president of the recently organized health board at Paris Dr Arthur H Keller was reelected city health officer of Paris and secretary of the board of health——Dr Joseph E Wells Cynthiana, and Dr James C Mitchell, Louisville, have been appointed members of the state board of health

LOUISIANA

New Physicians' Building—An eight story structure will be erected opposite the Touro Infirmary in New Orleans exclusively for physicians The cost of the building will be approximately $400 000 At the end of ten years physicians occupying offices in the building, will become permanent owners of the structure

Illegal Practitioner Charged—It is reported from Alexandria that the 'Rev Dr' J S Wright a negro who stated that he was a "doctor of divinity and a healer by faith" was tried and convicted, June 17, by Judge Hundley for practicing medicine without a license He was remanded for sentence Wright had been operating in the city for several weeks in a tent Dr Oscar Dowling president of the state board of health called on Wright and was advised that he was suffering from high blood pressure Wright gave him a prescription with directions for using, for the sum of one dollar

MARYLAND

Personal—Dr Randolph Winslow who for forty-nine years was associated with the school of medicine University of Maryland and with the University Hospital has left Baltimore on an extended automobile tour of the Southwest He will sail on a voyage to South America on his return In addition to severing his connection with the university, Dr Winslow has practically retired from active practice of his profession of surgery——Dr John M T Finney has left for Winnipeg Canada where he read the surgical address before the Canadian Medical Association which is in session——Dr Edward N Brush of Baltimore has returned from Quebec Canada where he attended the sessions of the American Psychiatric Association

MASSACHUSETTS

New England Roentgen Ray Society—At the annual meeting of the society held in Boston, June 2 the following officers were elected for the ensuing year president, Dr Arial W George Boston vice president Dr Ernest L Davis Springfield, and secretary-treasurer, Dr Adelbert S Merrill Boston

Massachusetts Medical Society—At the annual meeting of the society in Boston, June 13-14, Dr John Bartol, Boston was elected president, Dr Charles E Mongan, Somerville vice president, Dr Walter L Burrage Jamaica Plain secretary Dr Arthur K Stone Framingham Center treasurer and Dr Edwin H Bingham, Brookline librarian All officers were reelected with the exception of the vice president.

Harvard University Commencement—At the two hundred and eighty-sixth commencement of Harvard University thirteen honorary degrees and 1 401 regular degrees were conferred Dr Walter Belknap James, New York received the honorary degree of doctor of laws Gifts of $4 926 000 to the university were announced by President Lowell This amount included $100 000 from the class of 1897 in commemoration of its twenty-fifth anniversary

MICHIGAN

Honorary Degree for Dr Warnshuis—At the fifty-seventh annual commencement of Hope College Holland Dr Frederick C Warrshuis, Speaker of the House of Delegates of the American Medical Association, received the honorary degree of Doctor of Science for work in surgery, public health conservation and medical organization

Mentality of Prisoners Tested—Under the direction of Prof Guy M Whipple University of Michigan, tests for inmates of the state reformatory at Ionia designed to show what part mentality plays in crime were started, May 26 Dr R M Olin, state health commissioner, Dr McGregor and Dr R H Haskell superintendent of the Ionia State Hospital for the Criminal Insane assisted Professor Whipple The examination was authorized by the administrative board with a view to applying corrective measures where possible and also to furnishing the prisoners employment conforming to their mental development

MISSOURI

Decision Regarding Impounded Dogs—Mayor Kiel of St Louis has announced that he will remove the Humane Society from control of the dog pound because the Humane Society declines to deliver impounded dogs to the medical schools for scientific purposes as authorized by an ordinance passed by the board of aldermen recently The Humane Society has been instrumental in having a suit filed against the city to restrain the city officers from selling the dogs to medical schools on the ground that the ordinance is unconstitutional

Osteopaths and Physicians—The Springfield court of appeals has affirmed the finding of the lower court that an osteopath is not a physician or surgeon within the meaning of the law governing the practice of medicine and surgery The court of appeals quoted an opinion of the supreme court of Missouri as follows

> Osteopaths are not physicians or surgeons in any of the departments of medicine or surgery but may cure or relieve any disease of the human body according to the system method or science as taught by the American School of Osteopathy at Kirksville or any other legally chartered and regularly conducted school of osteopathy

NEW JERSEY

New Jersey Pediatric Society—At the annual meeting of the society held in Spring Lake June 21 the following officers were elected president Dr Eugene W Murray, Newark vice president Dr Frank W Pinneo Newark treasurer Dr Ernest G Hummel, Camden, and secretary, Dr Miller R Whitenack Newark

New Eugenics Bill—The house of assembly recently passed the new eugenics bill of the Rev Warren P Coon The purpose of this bill is to make uniform throughout the eastern part of the United States the repression of vice as advocated by the federal authorities, as a result of their experiences in the late war This act has already been adopted in twelve other states and punishes the male (especially when soliciting) as well as the female It enables the county court to put convicted women or girls on probation or send them to proper schools and it also takes care of taxicab assignations, which are not covered by the present law

NEW YORK

Hygiene Essay Contest—In order to stimulate interest on the part of high school students in problems of disease and hygiene Dr Nicholas Lukin offered a gold and silver medal to the two pupils of the Morris High School who would write the best essays on The Role of Bacteria in Disease Forty essays were submitted and it is believed that the contest served to stimulate greatly the interest of the students in these questions

Health Officers and Nurses Meet—The annual conference of the sanitary officers and public health nurses of New York was held in Saratoga Springs June 27-29 under the auspices of the state department of health Dr Hermann M Biggs state health commissioner opened the conference and introduced Gov Nathan L Miller Dr Victor C Vaughan Dr Livingston Farrand president of Cornell University and Dr George E Vincent president of the Rockefeller Foundation were among the speakers At a special session June 27 a demonstration of the wireless telephone and its uses in educating the public in health matters was given by the General Electric Company

Personal—Dr John Lorenzo Heffron has resigned as dean of the Syracuse University School of Medicine Syracuse effective June 15 This resignation terminates the connection which Dr Heffron has held with the teaching staff of the medical school for forty years during fifteen of which he has served as dean Dr Heffron was made dean emeritus

Dr Herman G Weiskotten, county necrotomist and professor of pathology in the college of medicine, was elected acting dean until October——Dr Francis S Mathews, New York, received the degree of doctor of laws, June 7, from Washington and Jefferson College at its one hundred and twenty-first annual commencement——Dr Harold L Amoss, associate member of the Rockefeller Institute for Medical Research, New York, received the degree of doctor of laws from George Washington University, Washington, D C, June 7 June 12, the scientific staff of the Rockefeller Institute gave a dinner in honor of Dr Amoss, who has been appointed associate professor of medicine at Johns Hopkins University, Baltimore——Dr Walter W Palmer, New York, received the honorary degree of doctor of science from Amherst College at commencement, June 21——Dr Moses Allen Starr and Dr Frederick Bierhoff recently sailed for Europe

New York City

Dinner in Honor of Dr Sobel—A testimonial dinner attended by more than 100 physicians and surgeons of this city was given, June 21, to Dr Jacob Sobel, assistant director of the bureau of child hygiene of the department of health, on the eve of his retirement after being in the service of the city twenty-three years Dr Sobel will go to Europe to study diseases of children with Professor Pirquet

Columbia University Establishes Public Health School—Under a bequest of the late Joseph R DeLamar, an institute of public health has been established at Columbia University The fund turned over to the university for the benefit of the school of medicine by the executors of the DeLamar estate amounts to $777 772 45 The new institute of public health will be primarily for research and the training of research workers, but it will afford instruction to students of medicine and others, and, as Mr Lamar's will provides, it will engage in giving wide publicity in popular form to the results of scientific investigation Dr Haven Emerson has been appointed professor of public health and administration

NORTH DAKOTA

State Health Survey—At the request of the state health officer, Dr Harley E French, the U S Public Health Service has assigned an officer to the state of North Dakota for the purpose of assisting in the organization of an adequate state health department Surgeon Robert Olesen, who has just completed a three-years service with the Wisconsin State Board of Health, has been detailed for this purpose A survey of the state's health needs has been completed and a plan submitted for an organization, based on the local requirements

OHIO

College of Homeopathy to Be Amalgamated—At a meeting of the board of trustees of the University of Ohio, June 19 the majority report of the committee appointed to make an investigation of the situation regarding medical education in the university was adopted This report provides (*a*) that the College of Homeopathic Medicine be discontinued on and after July 1, 1922, (*b*) that all buildings, instruments, appliances and material supplies of all kinds, now the property of the university and occupied or used by said college, be transferred to the jurisdiction of the College of Medicine, (*c*) that all students at present enrolled in the College of Homeopathic Medicine shall, on their individually expressed desire, be registered as students in the College of Medicine, with the grade now held by them in the College of Homeopathic Medicine and (*d*) that there be established two additional chairs, elective, in the College of Medicine, one to be known as the chair of homeopathic materia medica and the other as the chair of homeopathic practice, the date of such establishment to be from July 1

PENNSYLVANIA

Hospital News—Excavation has been started for a four-story building for the Cottage State Hospital Philipsburg——The newly erected addition to the Mount Sinai Hospital, Philadelphia, was dedicated, June 25 Judge John M Patterson made the dedicatory address

Dr Frazier Receives Chair of Surgery—Dr Charles H Frazier, formerly professor of clinical surgery in the University of Pennsylvania, has been made John Rhey Barton professor of surgery in that institution The appointment was made at the June meeting of the board of trustees Dr Frazier succeeds Dr John B Deaver, who will resign at the end of the present college year

WASHINGTON

Personal—Dr Rowe France has been appointed city physician of Seattle to succeed Dr Hiram M Reed——A farewell dinner was given, May 31, to Dr William N Keller, retiring superintendent of the Western State Hospital for the Insane, Fort Steilacoom Dr Keller was presented with a gold watch and Mrs Keller with a pearl necklace Dr David Livingstone will succeed Dr Keller——Dr A E Baldwin, Kettle Falls was recently elected president of the Stevens County Medical Society at Colville

CANADA

Canadian Medical Association—At the annual meeting of the association at Winnipeg, Man, June 20-23, the following officers were elected for the ensuing year president, Dr David H Arnott, London, Ont, vice president, Dr Walter L Muir, Halifax, N S, and secretary, Dr John W Scane, Montreal, Que The association proposes to investigate the feasibility of establishing a college of surgeons in Canada A committee was appointed to report on the matter at the next annual session Dr Edward W Montgomery, Winnipeg, is the retiring president

University News—At the Canadian Universities' Conference held in Winnipeg, recently, Dean Frank D Adams of McGill University, and Dean R W Brock of the University of British Columbia, urged on the delegates the necessity of founding a Canadian graduate school Dean Adams suggested that the graduate courses in Canada be pooled as they are in Germany, so that each student could avail himself of them without restriction——In a recent bulletin published by the Carnegie Foundation for Advanced Teaching, the union of six small universities in the provinces of New Brunswick and Nova Scotia is urged, making one large university at Halifax N S It is proposed to raise $4,500 000 for this purpose The institutions concerned are King's College Windsor, N S, Dalhousie University, Halifax, Acadia University, Wolfville, N S, Mount Allison University, Sackville, N B, St Francis Xavier's University, Antigonish, N S, and the University of New Brunswick Fredericton, N B——Included in the honors which have recently come to the graduates of McMaster University, Toronto, is the award of a valuable prize to Miss Marion E Stillwell, in the nurses' training course at the Toronto General Hospital J E Bates who graduated this year from the University of Toronto, won the Ellen Mickle Fellowship worth $1,200, for research work in pathology, under Dr W L Robinson

PHILIPPINE ISLANDS

University of St Thomas—The sum of 5,000,000 pesos ($2,500,000) has been appropriated by the Dominican Order which controls the University of St Thomas College of Medicine Manila, for the erection of a new concrete building, in which will be housed all the colleges of the university, the laboratories, the dispensary, the libraries, the hall, the chapel and its offices, leaving the old building which the university now occupies in the Walled City The site for this new building will be on the outskirts of Manila Construction work will be started in a few months A university hospital for the practice of the students of the college of medicine will be erected on the same site Dr Jose Luis de Castro is dean of the university

GENERAL

American Therapeutic Society—At the annual meeting of the association, held recently, the following officers were elected for the ensuing year president, Dr Charles G Jennings, Detroit, vice presidents, Drs Hermon C Gordinier, Troy, N Y, Arthur Parker Hitchens Washington, D C and C E Cooper-Cole, Toronto, Canada, secretary Dr Lewis H Taylor, Washington, D C, and treasurer, Dr Spencer L Dawes, New York

Prohibiting Importation of Horsehair Brushes—The House of Representatives this week passed the Winslow bill, prohibiting the importation and the shipment in interstate commerce of shaving and lather brushes containing horsehair In the Senate it was referred to the Committee on Interstate Commerce The purpose of the measure is to prevent the spread of anthrax, it having been discovered during the war by the U S Public Health Service and other health authorities that the disease was traceable to horsehair shaving brushes

Begin Hearings on "Filled Milk" Bill—The Committee on Agriculture of the Senate has begun hearings on the Voigt

filled milk bill, forbidding the shipment in interstate commerce of compounds of skimmed milk and vegetable oil, made in the semblance of whole evaporated milk. Prohibitory and restrictive legislation against these compounds has already been enacted in eleven states of the Union in the interest of public health. The Voigt bill passed the House by a vote of 250 to 40, and is now in the Senate for final consideration.

Tri-State Meeting.—The Medical Society of Virginia, Maryland and the District of Columbia held its spring meeting in Warrenton, Va., May 17, under the presidency of Dr. Stephen Harnsberger of that city. The following officers were elected: president, Dr. William L. Lewis, Kensington, Md.; vice presidents Drs. James H. Ferguson, Clifton Station, Va., and Edmund J. Horgan, Washington, D. C.; recording secretary, Dr. William T. Davis, Washington, D. C.; corresponding secretary, Dr. Joseph D. Rogers, Washington, D. C., and treasurer, Dr. Robert Scott Lamb, Washington, D. C. The next meeting will be held in Washington, D. C., Nov. 15, 1922.

Medical Museums.—The fifteenth annual meeting of the American and Canadian Section of the International Association of Medical Museums was held in the Army Medical Museum, Washington, D. C., in May, under the presidency of Prof. James Ewing of Cornell University. On recommendation of the Council, the Exchange Bureau and the Bureau for the Preservation of the Results of Medical Research of the Section of the Association of Medical Museums were transferred from the McGill University Medical Museum, Montreal, Canada, to the U. S. Army Medical Museum at Washington. Dr. Daniel S. Lamb, assistant and pathologist at the Army Medical Museum from 1865 to 1920, was presented with a testimonial from the U. S. Army Medical Department by Brig.-Gen. Walter D. McCaw, who called attention to the results of his labors as illustrated by the collections of the institution in which the meeting was being held. The *Journal of Technical Methods* (Bulletin 8) and the *Sir William Osler Memorial Bulletin* (Number 9) were ordered published. The following officers were elected for the ensuing year: president, Dr. Frank B. Mallory, Boston, vice presidents, Drs. Howard T. Karsner, Cleveland, Harry Marshall, University, Va., and Robert A. Lambert (Yale University), New Haven, and secretary-treasurer, Dr. Maude E. Abbot (McGill University), Montreal.

Warning on Leprosy.—According to a warning issued by the U. S. Public Health Service, leprosy in the United States is on the increase. Statistics show that there are 1,200 lepers at large in twenty-five states, with the constant danger of communicating the disease to others. Dr. C. H. Lavinder, in explaining the announcement regarding leprosy, said:

> While remarkable results are being obtained in combating leprosy in other countries, it is on the increase in the United States. In the tropics, notably in Hawaii, lepers are being cured by the use of chaulmoogra oil, one of the new discoveries. But we have had no success with it here, owing to the difference in the blood consistency of this climate and of this race. Great Britain long ago decided that the only way to eradicate the disease was to segregate the sufferers, so that there could be no chance for it to be communicated to others. We have adopted such a policy in America and have built a leprosarium at Carville, La. It has room for only 200 patients, and now every available bed is occupied. Each day the government receives applications from lepers seeking admission to the hospital. We pay their transportation and give them the very best of care and attention. But we are compelled to inform health officers who come to us that there is no room. As it is next to impossible for each city to construct its own leprosarium, the sufferers are at large, and each day some one comes in contact with them, adding to the possibilities of the disease being communicated to others.

President Harding, in a recent communication to Congress, asked that sufficient money be appropriated for the enlargement of the leprosarium at Carville. This week Representative Elliott of Indiana and Senator Ransdell of Louisiana introduced bills in the two houses, providing for the appropriation of $650,000 to be used by the U. S. Public Health Service to prevent the spread of leprosy and to provide care and treatment of all persons suffering with leprosy.

Committee to Study Toxicity and Fatalities in Local Anesthesia.—The report of the Board of Trustees of the American Medical Association (THE JOURNAL, May 27, p. 1617) contained an announcement of the appointment of a committee to continue the study of local anesthetics. This committee is composed of representatives from the several sections of the scientific assembly of the American Medical Association and is constituted as follows: representative of surgery, Dr. Elliott C. Cutler, Boston; representative of stomatology, Dr. Henry S. Dunning, New York; pharmacology, Dr. Robert A. Hatcher, New York, secretary of the committee; ophthalmology, Dr. Robert S. Lamb, Washington, D. C.; medicine, Dr. David I. Macht, Baltimore; laryngology, Dr. Emil Mayer, New York, chairman of the committee; pathology, Dr. Charles Norris, New York, and urology, Dr. Alexander Randall, Philadelphia. This new committee proposes to investigate the causes of toxic effects which have followed the use of local anesthetics, with a view to preventing these so far as possible, and thus to increase the safety, value and importance of local anesthesia. The committee requests that Fellows and members of the American Medical Association transmit to the secretary or to one of the members of the committee the information indicated: (1) Have you, during 1920 or 1921, observed any toxic effects—fatal or not—following the use of cocain or any of the other local anesthetics? (2) If you have observed such toxic effects, please submit a detailed report of each case, record, among other facts, data concerning the patient's general condition, the occasion for using the local anesthetic, the drug employed, the method of administration and the dose administered. (3) Kindly inform the committee of the name and address of any physician whom you know to have had any accident with any one of the local anesthetics.

LATIN AMERICA

Children's Bureau in Brazil.—The Department of Public Health of Brazil has created a children's bureau under the direction of Dr. Fernandez Figueira, president of the Brazilian Pediatric Society.

Typhoid Vaccination Introduced in Paraguay.—Dr. Cayetano Masi, surgeon general of the army, has applied to the vaccination of recruits a triple vaccine similar to the one in use in the United States Army. Dr. Masi was in this country last year.

Personal.—Drs. Paulina Luisi and J. C. Brito del Pino will represent Uruguay at the International Congress on Social Hygiene to be held in Paris this year.——Dr. Ciro Leon of Manzanilla, Cuba, has been visiting clinics in this country, especially in Chicago.

Mexican Tribute to Cajal.—At a special meeting of the directing board of the National University of Mexico, it was decided unanimously to grant an honorary diploma to Dr. S. Ramon y Cajal. The Mexican Academy of Medicine has also appointed him an honorary member, disregarding, for the occasion, the usual routine requirements. A subscription started by Dr. T. G. Perrin, the bacteriologist, already amounts to more than $3,000.

Leprosy in Colombia.—According to a recent report by Dr. R. F. Parra, physician in chief of the Agua de Dios Leprosarium, Colombia, there are now 2,726 lepers segregated there. Of these, 122 are receiving chaulmoogra oil treatment. There are two other leprosariums in Colombia, but the facilities are considered insufficient. Dr. Erich Martini is now employed by the government to make a survey of the leprosy situation and present recommendations for its control.

FOREIGN

Psychanalysis for the Poor.—Our Vienna exchanges mention that the Vienna Psychanalysis Society has made arrangements for an hour's evening dispensary for consultation with applicants for psychanalysis and training of physicians in psychanalysis.

Petrina Endowment.—Prof. T. Petrina of Prague, professor emeritus of internal diseases, president of the German section of the Bohemian Medical Society, retired from this and other positions on reaching his eightieth birthday recently. The German-Bohemian members of the society have founded the Petrina Endowment in his honor.

Gullstrand Medal.—The Swedish Medical Association at a recent meeting voted to commemorate the sixtieth birthday of Prof. A. Gullstrand in June with a special medal presenting him with the gold medal and selling the replicas to found a fund in his honor. He was given the Nobel prize in medicine in 1911 for his contributions to the science of ophthalmology, especially the Gullstrand lamp.

The Centennial of a Thesis.—Three French societies combined their efforts and invited the world to help them commemorate the thesis presented by Bayle one hundred years ago to the medical authorities of the University of Paris. Bayle had succeeded in isolating general paresis from the confusion prevailing in his day in regard to nervous and mental disease, and his thesis is a masterly description of the disease and its cause.

The Pioneer in Industrial Hygiene—This is the title bestowed on Dr. B. Ramazzini, the founder of industrial medicine, over two centuries ago (1633-1714). His treatise on "The Diseases of Artificers," was translated into English in 1750. He studied at the University of Padua which has recently celebrated its septicentennial, and commemorative addresses on Ramazzini have been delivered in several Italian cities as part of the septicentennial ceremonies.

New Medical Society—The inaugural meeting of the Cambridge University Medical Society was held in the Anatomy School, Cambridge, England, May 10. Dr. W. Langdon Brown of St. Bartholomew's Hospital, London, was the lecturer and spoke on "The Endocrine Glands and Their Relationship to the Sympathetic Nervous System." The following are the officers of the society: president, Mr. E. S. Fellowes-Farrow; vice president, Mr. Norman F. C. Burgess; secretary, Mr. C. L. Owen, and treasurer, Mr. T. F. McNair Scott.

Total of Arsphenamin Fatalities—The antiarsphenamin agitation in Germany, which was mentioned last week on page 1974, has brought out the fact that the proportion of mishaps with arsphenamin treatment amounts to about 1: 10,000. This statement was made by Professor Jadassohn and Professor Galewski in testifying before the committee appointed by the reichstag to investigate the matter. They presented evidence further to show that with anesthetics the ratio of mishaps was 1: 4,000 not so long ago, and it is now fully 1: 10,000. They said that the aim should be not to restrict the use of the arsenicals but to train physicians in their use.

The Padua Septicentennial—Among the students who flocked to the University of Padua were Vesalius who came from Brussels, William Harvey, who came from England to describe the circulation of the blood, Ariosto, Tasso, Copernicus and Benner. The souvenir medal struck off bears the heads of Morgagni and Galileo. The *Riforma Medica* gives an illustrated description of the festivities and relates that the first anatomy amphitheater was at Padua (1490), and the first chair of clinical medicine was organized in 1543. This was 105 years before Leyden could boast a chair of the kind. Four hundred delegates from various countries and scientific organizations took part in the proceedings, with the king of Italy and the scientific authorities of the land. A bronze bust of the late Prof. A. De Giovanni was also unveiled.

Personal—Professor Weygandt of Hamburg delivered an address recently at Rome on "Psychology in Art," on the invitation of the medical faculty.——Professor Kolle of Frankfort-on-the-Main was invited to lecture at the medical school at Budapest on the "Present Status of Serotherapy and Chemotherapy."——Professor Siebenmann of the chair for ear and throat diseases at Basel was feted on the occasion of his seventieth birthday, recently, and the *Schweizerische medizinische Wochenschrift* published a special number in his honor.——The Prussian Academy of Sciences has granted an appropriation to Prof. D. Ackermann to aid in continuing his research on the extractive substances of nonvertebrates and to Dr. Paula Hertwig for continuing her experimental research on heredity, with 2,000 marks to Dr. F. Levy for his research on the physiology of cell segmentation.

Deaths in Other Countries

Dr. **L. Jeanneret**, a pediatrician of Lausanne.——Dr. **Wilmart** of Brussels.——Dr. **Virgilio Manzanares** of San Miguel, San Salvador.——Dr. **P. Mazzeo**, instructor in pediatrics at the University of Naples.——Dr. **Saint-Hubert Serre** of the medical faculty at Montpellier.——Dr. **Schlange**, chief of the surgical service at the Hannover city hospital, aged 66.——Dr. **George D. Wilson**, vice president of the National Medical Union, and former chairman of the British Medical Association, Wandsworth Division, died in London, May 1.——Col. **Michael J. Sexton**, served in the Burmese War, the South African War and the late war with the R. A. M. C., died at Herne Bay, England, aged 61.——Lieut.-Col. **C. W. Owens**, R. A. M. C., served in three wars and as surgeon to the late Lord Roberts in India, justice of the peace, died, May 23, aged 69.

CORRECTION

Portrait for University of Pennsylvania.—In THE JOURNAL, June 24, p. 1971, it was stated that a portrait of Dr. Fussell was presented to the university by members of the faculty of the medical school. Dr. James M. Anders, Philadelphia, writes that the contributions for the portrait were made by Dr. Fussell's many friends and former medical students.

Government Services

Army Personnel

By the adoption of the conference report by the two houses of Congress, on the Army appropriation bill, all promotions in the Army below the grade of colonel will cease for the next six months. The provision in the bill applies to all branches of the service, including the medical department. The measure as finally agreed upon fixes the size of the Army at 12,000 officers and 125,000 enlisted men. Reduction of the officers' personnel from its present strength to 12,000 will be effected through the appointment of a selection board whose duty it shall be to review the efficiency of all the officers of the Army and recommend those for discharge or retirement who have failed to make satisfactory officers. The medical department will not be materially affected by the commissioned personnel reduction, as the number of its officers at the present time is below the quota.

Bureau Representative to Investigate European Conditions

Major Leon Fraser, assistant director of the U. S. Veterans' Bureau, sailed, June 24, on the *America* for the purpose of making a survey of conditions affecting the disabled beneficiaries of the bureau in England, France, Belgium, Germany, Austria, Switzerland, Italy and Greece. The bureau has 15,000 insurance and compensation beneficiaries in Europe, receiving more than $600,000 every month, and is at present attempting to handle the situation through American consuls.

Graduation at Army Medical School

General Pershing presented diplomas to the graduates of the Army Medical School at the commencement exercises. Brig.-Gen. Walter D. McCaw, a member of the staff of the Surgeon-General of the Army, delivered the address, in which he praised the members of the Medical Corps for the work accomplished during the World War. Those receiving diplomas were:

Honor Men—Capt. Albert Bowen, Capt. Raymond O. Dart (Sternberg medal), Capt. Arthur D. Haverstock, Capt. John R. Herrick, Capt. Howard J. Hutter, Capt. Douglas H. Mebane, Capt. William C. Pollock (Hoff medal).

Graduates—Major Robert A. Hale, Major William G. McKay, Capt. William B. Blacksmare, Capt. James M. Bryant, Capt. Harry A. Clark, Capt. Joseph S. Craig, Capt. Arthur W. Drew, Capt. John F. Edwards, Capt. William B. Foster, Jr., Capt. Claude V. Gautier, Capt. Emory H. Gist, Capt. Sam Hardeman, Capt. George R. Harris, Jr., Capt. Clarence C. Harvey, Capt. Leonard W. Hassett, Capt. Adam G. Heilman, Capt. Jarrett M. Huddleston, Capt. James R. Hudnall, Capt. Francis B. Hutton, Jr., Capt. Charles H. Irving, Capt. Julius A. Johnson, Capt. John F. Lieberman, Capt. Merrill K. Lindsay, Capt. William D. McClelland, Capt. John I. Meagher, Capt. Joseph A. Mendelson, Capt. William J. Miehe, Capt. Frank McA. Moose, Capt. Charles R. Mueller, Jr., Capt. Cyrenius A. Newcomb, Capt. James A. Orbison, Capt. David L. Robeson, Capt. John L. Robinson, Capt. Myron P. Rudolph, Capt. Montraville A. St. Peter, Capt. John M. Tamraz, Capt. Robert E. Thomas, Capt. Anthony J. Vadala, Capt. Logan M. Weaver, First Lieut. George F. Cooper (Slee Medal), First Lieut. Walter C. Rovals, First Lieut. George P. Sandrock, First Lieut. William LeR. Thompson.

Citizens' Training Camps

Improvement in the health of the youth of the country is one of the prime results to be sought by the Citizens' Military Training Camps, which are to be held throughout the United States by the War Department during July and August. Full information as to entrance requirements, including application blanks, may be obtained from corps area commanders, nine of whom are located at various points in the country, as follows:

First Corps Area, Boston, includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

Second Corps Area, Governors Island, N. Y., includes New York, New Jersey and Delaware.

Third Corps Area, Fort Howard, Md., includes Pennsylvania, Maryland, District of Columbia and Virginia.

Fourth Corps Area, Fort McPherson, Ga., includes North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi and Louisiana.

Firth Corps Area, Fort Benjamin Harrison, Ind., includes Indiana, Ohio, West Virginia and Kentucky.

Sixth Corps Area, 1819 W. Pershing Rd., Chicago, Ill., includes Illinois, Michigan and Wisconsin.

Seventh Corps Area, Fort Crook, Neb., includes North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri and Arkansas.

Eighth Corps Area, Fort Sam Houston, Texas, includes Texas, New Mexico, Colorado, Oklahoma and Arizona.

Ninth Corps Area, San Francisco, includes Washington, Oregon, Idaho, Montana, Wyoming, Utah, Nevada and California.

Foreign Letters

PARIS

(From Our Regular Correspondent)

June 2, 1922

Fatal Poisoning with Naphthol Salve

At a recent session of the Therapeutic Society, Dr H Busquet related that a 5-weeks-old babe, who had a gluteal hema and excoriation, had been treated by its mother with naphthol pomade, on his advice Besides naphthol, the salve contained sulphur and menthol, which did not have any part in the poisoning The total amount used in two munctions in twenty-four hours was 10 gm, corresponding to 1 gm of naphthol A few hours after the second application, pallor and acceleration of the pulse were noticed The next day, jaundice appeared, followed by cyanosis of the lips diarrhea, vomiting and scanty urine with albumin The following day the child was in coma and death occurred with a temperature of 35 7 C (96 3 F) In the course of the discussion concerning this communication, Artault remarked that products formed by alteration of naphthol are more toxic than naphthol itself Thus, it is important to keep naphthol in well stoppered bottles, sheltered from light, and it is still better to use a fresh product Richaud and Desesquelle emphasized the ease of absorption of phenol products when the skin is not intact, as in Busquet's case

Illegal Practice of Medicine by a Truss Maker

Is a truss maker, not a physician, who sells his apparatus regularly in certain territories, guilty of illegal practice of medicine? As a rule, the courts have decided in his favor when the truss maker confines himself to the sale of his apparatus and the taking of measurements, without making a diagnosis or treating the affection In this case, the truss maker must not question the patient on his health condition or examine him, either to make a diagnosis or to give him the necessary truss Apparatus must be made at the order of a physician only He is considered as practicing medicine illegally if he tells the patient that, with his apparatus, he can be cured within a certain time, or if he dissuades the patient from having an operation considered necessary by a physician, and that he claims to prevent by the use of his apparatus The *Concours medical* publishes a case of this kind in which the truss maker guaranteed a complete cure to his patient in two years, and made him sign a contract for the purchase of his apparatus But the patient consulted a physician, who diagnosed the case as hydrocele. Thus the truss maker's diagnosis was detrimental to the patient, who was obliged to purchase from him an apparatus not only expensive but also harmful, which might have increased his suffering

Memorial to the Army Medical Service of the World War

A ceremony was held recently at the Ecole d'application de medecine et de pharmacie militaires at Val-de-Grace in memory of the officers and soldiers of the medical corps who died during the World War The minister of war, who spoke in behalf of the government, said that homage must be paid to civilian physicians who enlisted during the war, as well as to regular army physicians The ceremony was presided over by the president of the republic, and Mme Millerand placed a wreath at the base of the bronze monument 'In the Mud of the Somme," which symbolizes the devotion of the stretcher bearers

Propaganda Against Conception

In a preceding letter (THE JOURNAL, March 5 1921, p 666) I mentioned the law against enticement to abortion and the propaganda against conception The attorney-general of Nantes made use of this law against a storekeeper who had sold or exhibited for sale instruments and articles to prevent conception But, notwithstanding the fact that the goods had been exhibited in the store window of the accused, the Nantes court did not agree with the attorney-general, and acquitted the man, stating that

> No law prevents at the present time the manufacture sale or exhibition of instruments or articles to prevent conception and although the accused offered these instruments or articles for sale there is no actual intent or advertising showing that by exhibiting them he intended to carry on a propaganda against conception Thus the essential element of the offense is lacking and there *is no* legal basis for accusation

Creation of Two Chairs of Hydrology and Climatology

A chair of therapeutic hydrology and climatology has been created in the faculties of medicine and pharmacy of the universities of Bordeaux and Toulouse

War Cross Awarded to the Val-de-Grâce School

At the end of the ceremony mentioned in the previous paragraph, the president of the republic stated that the ministry of war had awarded the Croix de guerre to the school of Val de-Grace with the citation

> True to its noble traditions the school of applied medicine and pharmacy of the army inspired the officers of the medical corps with the cult of science and the spirit of sacrifice and by the admirable devotion and abnegation shown by them during the World War, they merited everlasting homage from the country

LONDON

(From Our Regular Correspondent)

June 12, 1922

Death of William Halse Rivers

Through the recent death of Dr William Halse Rivers, M D F R C P F R S, president of the Anthropological Society, at the age of 56, following an acute abdominal illness, a brilliant and subtle mind, which had shed great light on the difficult problems of race, has been lost

He was educated at St Bartholomew's Hospital, and graduated with an M B degree at the London University, in 1886 He became house physician at the National Hospital for the Paralysed and Epileptic, and, at an early age, was lecturer on psychology at Guy's Hospital and on experimental psychology at the University of Cambridge He attained the degree of F R C P in 1899 He delivered the Croonian lectures on fatigue and the action of drugs in 1906 and the Fitzpatrick lectures on medicine, magic and religion in 1915 and 1916 But it was as an anthropologist that he first achieved wide fame He was a member of the Cambridge expedition to the Torres Straits and wrote a book in two volumes entitled the History of Melanesian Society," in which he made a bold attempt to reconstruct the history of the migrations of the Melanesians from their culture The work was a contribution to comparative ethnology, remarkable for both its original research and its scrupulous accuracy Other anthropologic works were Kinship and Social Organization and The Todas ' Then came the period in which he turned his attention to psychology and the writings of Freud of whom he might be described as a critical follower He considered that Freud insisted unduly on the sex instinct In 1920 he published 'Instinct and the Unconscious" which he described as a contribution to a biologic theory of the psychoneuroses ' It embodied his life studies and his experience with soldiers who had broken down under the strain of the war

His special aim was to study the relation between instinct and the body of experience we are accustomed to speak of as the unconscious ' The discovery of Head that in the healing of a severed cutaneous nerve there are two stages of sensibility—protopathic and epicritic—he explained as representing different stages in the development of the afferent nervous system Certain manifestations of protopathic sensi-

The Pioneer in Industrial Hygiene—This is the title bestowed on Dr. B. Ramazzini the founder of industrial medicine, over two centuries ago (1633-1714). His treatise on "The Diseases of Artificers" was translated into English in 1750. He studied at the University of Padua, which has recently celebrated its septicentennial, and commemorative addresses on Ramazzini have been delivered in several Italian cities as part of the septicentennial ceremonies.

New Medical Society—The inaugural meeting of the Cambridge University Medical Society was held in the Anatomy School, Cambridge, England, May 10. Dr. W. Langdon Brown of St. Bartholomew's Hospital, London, was the lecturer and spoke on "The Endocrine Glands and Their Relationship to the Sympathetic Nervous System." The following are the officers of the society: president, Mr. E. S. Fellowes-Farrow; vice president, Mr. Norman F. C. Burgess; secretary, Mr. C. L. Owen, and treasurer, Mr. T. F. McNair Scott.

Total of Arsphenamin Fatalities—The antiarsphenamin agitation in Germany, which was mentioned last week on page 1974, has brought out the fact that the proportion of mishaps with arsphenamin treatment amounts to about 1: 10,000. This statement was made by Professor Jadassohn and Professor Galewski in testifying before the committee appointed by the reichstag to investigate the matter. They presented evidence further to show that with anesthetics the ratio of mishaps was 1: 4,000 not so long ago and it is now fully 1: 10,000. They said that the aim should be not to restrict the use of the arsenicals but to train physicians in their use.

The Padua Septicentennial—Among the students who flocked to the University of Padua were Vesalius who came from Brussels, William Harvey, who came from England to describe the circulation of the blood, Ariosto, Tasso, Copernicus and Benner. The souvenir medal struck off bears the heads of Morgagni and Galileo. The *Riforma Medica* gives an illustrated description of the festivities and relates that the first anatomy amphitheater was at Padua (1490), and the first chair of clinical medicine was organized in 1543. This was 105 years before Leyden could boast a chair of the kind. Four hundred delegates from various countries and scientific organizations took part in the proceedings, with the king of Italy and the scientific authorities of the land. A bronze bust of the late Prof. A. De Giovanni was also unveiled.

Personal—Professor Weygandt of Hamburg delivered an address recently at Rome on "Psychology in Art," on the invitation of the medical faculty.——Professor Kolle of Frankfort-on-the-Main was invited to lecture at the medical school at Budapest on the "Present Status of Serotherapy and Chemotherapy."——Professor Siebenmann of the chair for ear and throat diseases at Basel was feted on the occasion of his seventieth birthday recently, and the *Schweizerische medizinische Wochenschrift* published a special number in his honor.——The Prussian Academy of Sciences has granted an appropriation to Prof. D. Ackermann to aid in continuing his research on the extractive substances of non-vertebrates, and to Dr. Paula Hertwig for continuing her experimental research on heredity, with 2,000 marks to Dr. F. Levy for his research on the physiology of cell segmentation.

Deaths in Other Countries

Dr. **L. Jeanneret**, a pediatrician of Lausanne.——Dr. **Wilmart** of Brussels.——Dr. **Virgilio Manzanares** of San Miguel, San Salvador.——Dr. **P. Mazzeo**, instructor in pediatrics at the University of Naples.——Dr. **Saint-Hubert Serre** of the medical faculty at Montpellier.——Dr. **Schlange**, chief of the surgical service at the Hannover city hospital, aged 66. Dr. **George D. Wilson**, vice president of the National Medical Union, and former chairman of the British Medical Association, Wandsworth Division, died in London, May 1.——Col. **Michael J. Sexton**, served in the Burmese War, the South African War and the late war with the R. A. M. C., died at Herne Bay, England, aged 61.——Lieut.-Col. **C. W. Owens**, R. A. M. C., served in three wars and as surgeon to the late Lord Roberts in India, justice of the peace, died, May 23, aged 69.

CORRECTION

Portrait for University of Pennsylvania.—In THE JOURNAL, June 24, p. 1971, it was stated that a portrait of D. Fussell was presented to the university by members of the faculty of the medical school. Dr. James M. Anders, Philadelphia, writes that the contributions for the portrait were made by Dr. Fussell's many friends and former medical students.

Government Services

Army Personnel

By the adoption of the conference report by the two houses of Congress, on the Army appropriation bill, all promotions in the Army below the grade of colonel will cease for the next six months. The provision in the bill applies to all branches of the service, including the medical department. The measure as finally agreed upon fixes the size of the Army at 12,000 officers and 125,000 enlisted men. Reduction of the officers' personnel from its present strength to 12,000 will be effected through the appointment of a selection board whose duty it shall be to review the efficiency of all the officers of the Army and recommend those for discharge or retirement who have failed to make satisfactory officers. The medical department will not be materially affected by the commissioned personnel reduction, as the number of its officers at the present time is below the quota.

Bureau Representative to Investigate European Conditions

Major Leon Fraser, assistant director of the U. S. Veterans' Bureau, sailed, June 24, on the *America* for the purpose of making a survey of conditions affecting the disabled beneficiaries of the bureau in England, France, Belgium, Germany, Austria, Switzerland, Italy and Greece. The bureau has 15,000 insurance and compensation beneficiaries in Europe, receiving more than $600,000 every month, and is at present attempting to handle the situation through American consuls.

Graduation at Army Medical School

General Pershing presented diplomas to the graduates of the Army Medical School at the commencement exercises, Brig.-Gen. Walter D. McCaw, a member of the staff of the Surgeon-General of the Army, delivered the address, in which he praised the members of the Medical Corps for the work accomplished during the World War. Those receiving diplomas were:

Honor Men—Capt. Albert Bowen, Capt. Raymond O. Dart (Sternberg medal), Capt. Arthur D. Haverstock, Capt. John R. Herrick, Capt. Howard J. Hutter, Capt. Douglas H. Mebane, Capt. William C. Pollock (Hoff medal).

Graduates—Major Robert A. Hale, Major William G. McKay, Capt. William B. Blacksnare, Capt. James M. Bryant, Capt. Harry A. Clark, Capt. Joseph S. Craig, Capt. Arthur W. Drew, Capt. John F. Edwards, Capt. William B. Foster, Jr., Capt. Claude V. Gautier, Capt. Emory H. Gist, Capt. Sam Hardeman, Capt. George R. Harris, Jr., Capt. Clarence C. Harvey, Capt. Leonard W. Hassett, Capt. Adam G. Heilman, Capt. Jarrett M. Huddleston, Capt. James R. Hudnall, Capt. Francis B. Hutton, Jr., Capt. Charles H. Irving, Capt. Julius A. Johnson, Capt. John F. Lieberman, Capt. Merrill K. Lindsay, Capt. William D. McClelland, Capt. John I. Meagher, Capt. Joseph A. Mendelson, Capt. William J. Miehe, Capt. Frank McA. Moose, Capt. Charles R. Mueller, Jr., Capt. Cyrenius A. Newcomb, Capt. James A. Orbison, Capt. David L. Robeson, Capt. John E. Robinson, Capt. Myron P. Rudolph, Capt. Montraville A. St. Peter, Capt. John M. Tamraz, Capt. Robert E. Thomas, Capt. Anthony J. Vidala, Capt. Logan M. Weaver, First Lieut. George F. Cooper (Slee Medal), First Lieut. Walter C. Rovals, First Lieut. George P. Sandrock, First Lieut. William LeR. Thompson.

Citizens' Training Camps

Improvement in the health of the youth of the country is one of the prime results to be sought by the Citizens' Military Training Camps which are to be held throughout the United States by the War Department during July and August. Full information as to entrance requirements including application blanks, may be obtained from corps area commanders, nine of whom are located at various points in the country, as follows:

First Corps Area, Boston, includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

Second Corps Area, Governors Island, N. Y., includes New York, New Jersey and Delaware.

Third Corps Area, Fort Howard, Md., includes Pennsylvania, Maryland, District of Columbia and Virginia.

Fourth Corps Area, Fort McPherson, Ga., includes North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi and Louisiana.

Firth Corps Area, Fort Benjamin Harrison, Ind., includes Indiana, Ohio, West Virginia and Kentucky.

Sixth Corps Area, 1819 W. Pershing Rd., Chicago, Ill., includes Illinois, Michigan and Wisconsin.

Seventh Corps Area, Fort Crook, Neb., includes North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri and Arkansas.

Eighth Corps Area, Fort Sam Houston, Texas, includes Texas, New Mexico, Colorado, Oklahoma and Arizona.

Ninth Corps Area, San Francisco, includes Washington, Oregon, Idaho, Montana, Wyoming, Utah, Nevada and California.

Foreign Letters

PARIS

(From Our Regular Correspondent)

June 2, 1922

Fatal Poisoning with Naphthol Salve

At a recent session of the Therapeutic Society, Dr H Busquet related that a 5-weeks old babe, who had a glutеal eczema and excoriation, had been treated by its mother with naphthol pomade, on his advice Besides naphthol, the salve contained sulphur and menthol, which did not have any part in the poisoning The total amount used in two munctions in twenty-four hours was 10 gm, corresponding to 1 gm of naphthol A few hours after the second application, pallor and acceleration of the pulse were noticed The next day, jaundice appeared, followed by cyanosis of the lips diarrhea, vomiting and scanty urine with albumin The following day the child was in coma and death occurred with a temperature of 35 7 C (96 3 F) In the course of the discussion concerning this communication, Artault remarked that products formed by alteration of naphthol are more toxic than naphthol itself Thus, it is important to keep naphthol in well-stoppered bottles, sheltered from light, and it is still better to use a fresh product Richaud and Desesquelle emphasized the ease of absorption of phenol products when the skin is not intact, as in Busquet's case

Illegal Practice of Medicine by a Truss Maker

Is a truss maker, not a physician, who sells his apparatus regularly in certain territories, guilty of illegal practice of medicine? As a rule, the courts have decided in his favor when the truss maker confines himself to the sale of his apparatus and the taking of measurements without making a diagnosis or treating the affection In this case, the truss maker must not question the patient on his health condition or examine him either to make a diagnosis or to give him the necessary truss Apparatus must be made at the order of a physician only He is considered as practicing medicine illegally if he tells the patient that, with his apparatus, he can be cured within a certain time, or if he dissuades the patient from having an operation considered necessary by a physician, and that he claims to prevent by the use of his apparatus The *Concours medical* publishes a case of this kind in which the truss maker guaranteed a complete cure to his patient in two years, and made him sign a contract for the purchase of his apparatus But the patient consulted a physician, who diagnosed the case as hydrocele Thus, the truss maker's diagnosis was detrimental to the patient, who was obliged to purchase from him an apparatus not only expensive but also harmful, which might have increased his suffering

Memorial to the Army Medical Service of the World War

A ceremony was held recently at the Ecole d application de medecine et de pharmacie militaires at Val-de-Grace in memory of the officers and soldiers of the medical corps who died during the World War The minister of war who spoke in behalf of the government, said that homage must be paid to civilian physicians who enlisted during the war, as well as to regular army physicians The ceremony was presided over by the president of the republic, and Mme Millerand placed a wreath at the base of the bronze monument 'In the Mud of the Somme," which symbolizes the devotion of the stretcher bearers

Propaganda Against Conception

In a preceding letter (THE JOURNAL, March 5, 1921, p 666) I mentioned the law against enticement to abortion and the propaganda against conception The attorney-general of Nantes made use of this law against a storekeeper who had sold or exhibited for sale instruments and articles to prevent conception But, notwithstanding the fact that the goods had been exhibited in the store window of the accused, the Nantes court did not agree with the attorney-general, and acquitted the man, stating that

> No law prevents, at the present time the manufacture sale or exhibition of instruments or articles to prevent conception and although the accused offered these instruments or articles for sale there is no act plot intent or advertising showing that by exhibiting them, he intended to carry on a propaganda against conception Thus the essential element of the offense is lacking and there is no legal basis for accusation

Creation of Two Chairs of Hydrology and Climatology

A chair of therapeutic hydrology and climatology has been created in the faculties of medicine and pharmacy of the universities of Bordeaux and Toulouse

War Cross Awarded to the Val-de-Grâce School

At the end of the ceremony mentioned in the previous paragraph, the president of the republic stated that the ministry of war had awarded the Croix de guerre to the school of Val-de-Grace with the citation

> True to its noble traditions the school of applied medicine and pharmacy of the army inspired the officers of the medical corps with the cult of science and the spirit of sacrifice and by the admirable devotion and abnegation shown by them during the World War they merited everlasting homage from the country

LONDON

(From Our Regular Correspondent)

June 12, 1922

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Through the recent death of Dr William Halse Rivers, M D, F R C P F R S, president of the Anthropological Society, at the age of 56, following an acute abdominal illness, a brilliant and subtle mind, which had shed great light on the difficult problems of race, has been lost

He was educated at St Bartholomew's Hospital and graduated with an M B degree at the London University, in 1886 He became house physician at the National Hospital for the Paralysed and Epileptic, and, at an early age, was lecturer on psychology at Guy's Hospital and on experimental psychology at the University of Cambridge He attained the degree of F R C P in 1899 He delivered the Croonian lectures on fatigue and the action of drugs in 1906 and the Fitzpatrick lectures on medicine, magic and religion in 1915 and 1916 But it was as an anthropologist that he first achieved wide fame He was a member of the Cambridge expedition to the Torres Straits and wrote a book in two volumes entitled the History of Melanesian Society," in which he made a bold attempt to reconstruct the history of the migrations of the Melanesians from their culture The work was a contribution to comparative ethnology, remarkable for both its original research and its scrupulous accuracy Other anthropologic works were 'Kinship and Social Organization and The Todas" Then came the period in which he turned his attention to psychology and the writings of Freud of whom he might be described as a critical follower He considered that Freud insisted unduly on the sex instinct In 1920 he published 'Instinct and the Unconscious,' which he described as 'a contribution to a biologic theory of the psychoneuroses" It embodied his life studies and his experience with soldiers who had broken down under the strain of the war

His special aim was to study the relation between instinct and the body of experience we are accustomed to speak of as the unconscious" The discovery of Head that in the healing of a severed cutaneous nerve there are two stages of sensibility—protopathic and epicritic—he explained as representing different stages in the development of the afferent nervous system Certain manifestations of protopathic sensi-

bility are suppressed as belonging to a crude form of nervous system, which has been superseded by a more efficient mechanism The suppressed reactions are ready to spring into activity whenever the situation calls for an emotional rather than an intellectual response From these considerations follows the argument that "the suppression of conscious experience is only one example of a process which applies throughout the animal kingdom and is essential to the proper regulation of every form of human or animal activity Every living process of the animal involves not only activity devoted to the special end to be met but also the inhibition of activities of other kinds" Certain elements of early experience are utilized and form, by fusion with other elements, the products which make up the experience of later life Elements which are incompatible with later developments are suppressed

Rivers restricted the term "unconscious" to the earlier forms of mental experience which have not been utilized by the process of fusion Much, however, of the unconscious he regarded as such, on account of its having accompanied a painful experience Hysteria he held to be essentially protective Cases met during the war had the common feature that they unfitted the subject for further participation in warfare The symptoms appeared in order to 'protect" the individual Thus was the immemorial conflict between instinct and duty solved By the premature death of Rivers, morbid psychology has lost its most philosophical mind since Hughlings Jackson

The Reprieve of Ronald True

The case of Ronald True, who was sentenced to death for the murder of a courtesan has been reported in previous letters (THE JOURNAL, May 27, p 1651, June 17, p 1907) In spite of the unanimous evidence of the physicians, including those in the jail service that he was insane the jury found him guilty of murder and responsible for the act, and the court of appeal confirmed the verdict The home secretary ordered an inquiry into his mental condition by three experts They unanimously pronounced him insane He was therefore reprieved and sent to a criminal lunatic asylum The reprieve has provoked an unprecedented storm of protest in the press and in journals of all shades of political opinion The prisoner's disreputable career and the callous brutality of the crime with the sordid motive of theft caused a strong desire to see justice done The fact that the jury rejected the plea of insanity was considered decisive on that point

In charging the grand jury at the Devon assizes, the judge (Mr Justice Avory) said, referring to the lightness of the calendar "I hope this may be taken as a symptom that a recrudescence of crime which we experienced after the war is abating Whether it will continue to abate if the infliction of the penalties of the law is to be left to the discretion of experts in Harley Street, I very much doubt, for the only real deterrent to crime is the certainty that the appropriate penalty will follow its commission' This slogan, 'Trial by Harley Street" (the principal physicians' street in London), has been taken up by the press The whole trouble turns on the difference between the legal and the medical conception of insanity which is a constant bone of contention in the courts In this case, notwithstanding the medical evidence, the jury refused to find the prisoner legally insane On the other hand, the committee of experts had not to determine the question of criminal responsibility but whether the prisoner was insane at the time of their examination It having been determined that he was insane he could not be executed, for the law forbids the execution of an insane man But so great was the indignation that the press and public lost sight of these facts, which show that the home secretary had no choice in the matter but was bound to act as he has done He was assailed with the greatest virulence and has had to defend himself in Parliament Even the unfounded allegation was made that True had got off because he had relatives high in society

Another aspect of the case is put by a well-known admiral, who says "Whether he is a lunatic or not, why should the taxpayer pay to keep in existence a man who brutally murders a woman in order to steal her jewelry? Murderers had better be tried by a naval court-martial We should expend a few pence more in rope, but save the country many thousands of pounds in lunatic asylums" The press declares that mental experts have become imbued with Freudian and other recent doctrines to the extent of extinguishing human responsibility for anything and that they have come to regard brutal crimes as a symptom of insanity If they are to gain a footing at the home office murder trials will become a mockery, and our criminal lunatic asylums will become overcrowded unless, indeed, they demand a general jail delivery on psychologic grounds

An American Surgeon in Charge at a London Hospital

Dr Harvey Cushing professor of surgery in Harvard University is on the invitation of the governors and of the medical college of St Bartholomew s Hospital, acting as director of the surgical professorial unit A similar compliment was paid last year, when the director of the surgical professorial unit of the hospital acted as temporary surgeon-in-chief of the Peter Bent Brigham Hospital in Boston The interchange of teachers between our medical schools and those of America has sprung from the intimacy and consequent mutual appreciation which was brought about in the war Professor Cushing was created a Companion of the Order of the Bath for his services with the British Forces in France, and was elected an Honorary Fellow of the Royal College of Surgeons of England

Tropical Research in East Africa

It is proposed that the research station at Amani in German East Africa which in the days before the war was reputed to be one of the leading tropical research institutions in the world, shall be made the central research station for the whole of East Africa During hostilities, the Germans produced there huge stores of food and other supplies including 15 000 bottles of "whisky," and soap, candles and medicines.

The Increase of Cancer

As stated in a previous letter (THE JOURNAL, June 24 p 1975) the increase of cancer has again become a topic of interest Our ignorance as to the cause of the disease is reflected in the diverse suggestions which are being made in the press in some cases by distinguished scientists Tea drinking the cooking of food the inhalation of tar dust arising from roads, microbes which are generated in drinking water stored in reservoirs have been in turn incriminated The proportional mortality from the disease is shown by the following figures, given in the last census of England and Wales for the deaths from the principal diseases per thousand deaths cancer 68, phthisis 74 3, nervous diseases 107 4, bronchitis and pneumonia, 140 7, heart disease, 85, violence, 38 5

Knighthood Conferred on a "Bone Setter"

Mr H A Barker, the "bone setter," has been knighted He is described officially as 'a specialist in manipulative surgery who placed his manual dexterity unreservedly at the disposal of all wounded ex-service men' Though not a qualified member of the medical profession, he enjoyed an extensive and fashionable practice and for long was a cause of acrimonious controversy A physician had his name removed from the register for administering anesthetics for him He possesses considerable manipulative skill, for he won the approval of some leading surgeons, but how far the

absence of the regular training led him to adopt "manipulative surgery" in cases in which it did no good or even did positive harm is a question on which we have no light Some time ago, an attempt was made, as stated in THE JOURNAL, by his influential friends to obtain for him an honorary medical qualification, but it failed The rather absurd reason was given that the fact that he had not a qualification prevented him from explaining his methods to the profession We have to go back to the days of Queen Anne for an instance of a man outside the profession being given a knighthood for supposed medical skill She conferred this honor on her oculist, who was unqualified and is regarded as a quack

BELGIUM

(From Our Regular Correspondent)

May 27, 1922

The Reserve Medical Corps

The minister of national defense recently submitted to the king a decree concerning the creation of a school whose duty will be (1) to give or to perfect professional instruction to officers, future reserve officers noncommissioned officers and certain soldiers in the sanitary service, (2) to experiment with field equipment and to study the operation of the sanitary service, and (3) to give special instruction as ambulance bearers to men preparing for ecclesiastical duties The school will include a staff, a school for reserve physicians and pharmacists, a company of ambulance bearers and an executive staff The aim of the school is to train the men in the militia who intend to become physicians or pharmacists in the professional technic of the army, and to give them the necessary military instruction and education to prepare them to fulfil, after their university studies, the functions of reserve physicians or pharmacists, and to enable them, in the interval, to render service in the field, thus insuring a sanitary service with a complete force at all times

Congenital Upward Displacement of the Scapula

Dr Delchef presented to the Academy of Medicine two curious cases constituting actual ectopia of the scapula The malformation is analogous to an arrest of the ascent of one or both ilia with six sacral vertebrae and has the same clinical significance as cervical ribs The abnormal bone parts holding the scapula to the vertebrae are not the cause of the malformation, but a complication probably of vertebral origin The hypothesis of a regressive anomaly, with a resemblance to the complete scapular girdle of certain fish is not justified On the other hand, the resemblance to a cervical rib seems justified, but the extreme difference between the anatomic anomalies increases the doubt as to the pathogenesis Operative intervention is indicated when the fixity of the scapula entails important functional disturbances The operation consists, according to cases in resection either of the superior internal angle of the elongated and curved bone, or of the supernumerary bone parts and dividing the retracted muscular fibers It may be necessary, besides, to raise the muscles on the inward edge or to fasten the scapula to the ribs, spine or muscle

Protection of Children Against Tuberculosis

Monsieur Duthoit has published his report concerning the activity of the society for the protection of children against tuberculosis during 1920 The work is accomplished with the cooperation of the Belgian national league against tuberculosis Its dispensaries send to the society children of the patients frequenting their consultations, who are accepted only on a report from the dispensary physician and the prophylaxis nurse The society includes at present, the Edith Cavell infant shelter, twelve cradles, the Berthemlez-Louvain colony, thirty beds, and the Flobecq colony, with 130 children The "Foyer Elizabeth" was organized in the Flobecq colony, in 1920, to isolate and give special care to children who become ill while out to nurse, and to quarantine those coming from Brussels before they were turned over to the nurses The total number of days of care in the three establishments in 1920 was 40,130, for an average of 167 children The upkeep for each child has been 3 48 francs each day

Pneumococcus Infection and the Congo Troops

Dr Lejeune recently submitted a report to the Belgian Society of Tropical Medicine concerning some interesting statistics on the morbidity of black troops The figures show that in German East Africa, in 1917, only 25 per cent of the deaths were due to the enemy fire During this campaign, pneumococcic infections alone killed 4 per cent more men than bullets did Negroes do not seem to be able to resist the pneumococcus, and the reason for this is not clear Senegalese troops in France showed that the race factor was not the only cause for, after a few months, by degrees they became spontaneously immunized There was an average loss of 6 per cent at the beginning, but later the black troops became as resistant as European troops Lejeune called the attention of the civil and military authorities to the advantages that would be derived from compulsory vaccination of postoffice employees, soldiers and workmen Antipneumococcic vaccines and serums should be put at the disposal of all physicians in the colony, and, if possible, they should be manufactured in various parts of the Congo under the same conditions as smallpox vaccine

Reform of Medical Studies

We mentioned in a previous letter the discussions pertaining to the reform of medical studies Notwithstanding the differences of opinion, members of the Academy of Medicine have finally arrived at an understanding Medical studies in universities must be of seven years' duration This includes all scientific and medical studies for the degree of doctor of medicine

Anthropometry of the Belgian Woman

Monsieur Gilet has submitted to the Societe d'Anthropologie of Brussels the results of his inquiry concerning the anthropometry of Belgian women His researches were made on 1 000 delinquent women and 400 nondelinquent women He concludes that the proportion of Belgian women whose weight corresponds to their height is very small Social conditions and temperaments have an influence on this He remarks that the muscular type of woman is best, but is rarely found in Belgium, because, on account of education, atavism or indifference, she neglects physical instruction and the improvement of her constitution Developing exercises should be applied equally to the two sexes, and athletic sports would be of great advantage to women

BUCHAREST

(From Our Regular Correspondent)

June 10, 1922

Imbecility in Its Clinical and Medicolegal Aspects

At a recent meeting of the Medical Society of Bucharest, Dr Popescu read a paper on imbecility in its clinical and medicolegal aspects He considered that particular form of imbecility described as moral insanity or moral imbecility The symptoms to which he assigned the foremost place were lack of discretion, absolute incapacity for being influenced strong criminal propensity traceable even to childhood, lifelong instability and restlessness, aversion to useful employment unsociableness, exaggerated self-esteem, excessive fancifulness, vanity, egotism complete want of ethical ideas and impulses, absolute unconsciousness of justice and moral-

ity, and a great many bodily signs of degeneration Heredity had something to do with the development of these defects Observations extending over many years had convinced Dr Popescu that the ethical imperfections enumerated in this list and the criminal acts arising from them were the results of mental incapacity dating from the earliest period of life In all patients whom he had the opportunity of observing from the age of 10 or 12 years to full maturity, he found that the ethical shortcomings which rendered them useless as members of society showed no tendency to increase He then described those forms of the disease which present similar symptoms and might therefore be confused with moral imbecility, called attention to the chief points serving to distinguish them, made some observations on the prognosis, discussed the general question of how such cases should be dealt with, and devoted a few words to the subject of judicial decisions He agreed with other continental neurologists that this form of mental abnormality presented certain features which were always similar and decidedly characteristic, as already mentioned, the features in question existed from the *earliest period of life and showed no tendency to increase*, and, on account of possessing these qualities, the condition now described might be reckoned as one of the special or definite types of mental disease

Poisoning with Methylated Gin

A series of cases of poisoning was reported to the health authorities in Sofia recently and in subsequent investigations some unexpected disclosures were made Within a few days, seven cases of illness, all presenting similar symptoms, were observed in a Bulgarian mining district, and, in a Sofia suburb, about forty persons were attacked with marked drowsiness, vomiting and violent muscular cramps That the condition was a result of poisoning by methylated gin was ascertained in the Sofia cases only after the source of the fatal cases had been discovered in the mining district Altogether about 1,800 liters (450 gallons) of the poisonous gin has been seized and destroyed, and endeavors are being made to trace the buyers of other quantities of liquor How the methyl alcohol has found its way into the gin could not be ascertained This is the first instance, in Bulgaria, in which an alcoholic beverage containing dangerous admixtures has escaped detection by the excise and the health officers

The Feebleminded

The truth about the feebleminded is gradually being put in plain words before the public and at a recent meeting of the Kolozsvar education committee Dr A Elfer spoke very forcibly regarding the necessity for legislation giving legal control over those unable to take care of themselves In moving the adoption of the report of the special schools after-care committee, Dr Elfer stated that, while the children improved very much in the school, when they were turned out into the world only 5 per cent proved capable of earning the minimum for maintenance and many who when they first left school became wage earners fell back into the class of unemployed The experience of the after-care committee has led Dr Elfer to the conclusion that the mentally defective require life-long control, some to a greater and some to a less extent, but such control must be provided, or the work spent on them during their earlier years will be entirely wasted

Spontaneous Fracture of the Ribs in a Syphilitic Patient

The Sarajevo County Hospital reports the case of a woman, aged 41, who presented several unusual symptoms of syphilitic origin She had contracted the infection fourteen years before, and had been treated with injections of mercuric salicylate Since that time she had remained free from all symptoms until a few months *previously when suddenly* an infiltration of the sternal extremity of the right clavicle appeared and developed into a well defined, immovable tumor, which still existed Two months previously, a similar nodule had appeared on the sternum and four weeks later a fresh tumor was observed, but this time on the eighth right rib in the posterior axillary line The nodule was hard, immovable and very tender The patient said that when bending to the side she suddenly felt a sharp pain and a cracking noise on the side of the new tumor Since that time, she had felt pain at this point on coughing, turning or breathing deeply An examination by the roentgen rays revealed the true nature of the affection The roentgenogram revealed a fracture of the rib the vertebral fragment having two sharp points and the sternal fragment being distant about 1 5 cm from the other portion The rib itself was thickened and the periosteum was infiltrated (gummatous osteomyelitis and periostitis) Cases of such spontaneous fractures are very rare

PRAGUE

(From Our Regular Correspondent)

June 1, 1922

Congress of University Teachers

A general congress of Czechoslovak university teachers was held in Prague, May 14-16 The congress was attended by about 500 members The congress was opened by the president Masaryk, who was at one time a professor of philosophy at Prague University In the section on educational questions Prof Jaroslav Hlava, senior on the staff of Prague medical faculty, presented a scheme for the reform of medical studies in the republic The theoretical study should last according to his plan for five years, as has been the case up to date He reserves two years for the study of chemistry, biology physics, anatomy histology and physiology as has been done in the past adding to these fundamental sciences, microbiology as a special subject Under the present plan the students have to pass the examinations in these sciences at the end of the second year Professor Hlava would give the examinations in the first four semesters He also desires to have all the semesters equally long At the present time the winter semester is almost twice as long as the summer semester The most radical changes which he suggests concern the second part of the medical course in the last four years To the examinations in twelve different topics which the medical students have to undergo he adds six He wishes to have included among the new topics public health administration and social medicine As it would be impracticable for the staff of the medical faculty to hold so many examinations he suggests that two different categories of examinations be introduced One group of subjects, including the most important ones should be passed by all the students the examinations in the second group being taken only by those who will be called according to an automatic scheme which will be unknown to the students so that they shall prepare themselves for all the examinations, not knowing whether they will be required to take them The examinations should be again divided throughout all the semesters of study and not crowded into the last semesters, as they now are This reform would allow the same time for medical studies as at present but a new bill regulating the practice of medicine, which is to be introduced into the parliament in the near future, will make it compulsory, for every doctor of medicine who desires to practice in the country to spend a year in one of the general hospitals of the country This virtually means that the medical studies will be prolonged by another year The proposition of Professor Hlava is being criticized, especially by the representatives of the clinical branches of medicine, as being too theoretical and as not allowing sufficient time for practical training, but his suggestion has aroused such an interest in the reform of

the study of medicine that, very probably, some changes will be made for the improvement of the medical curriculum, which has not been changed since 1903

Venereal Diseases Bill

The senate recently accepted the venereal diseases bill which was introduced by the cabinet It is somewhat surprising that the bill was accepted unanimously, as it was anticipated that there would be some opposition, at least from the Catholic party since the Catholic papers carried on a campaign against this bill, which introduces abolition in place of the present system of reglementation The minister of health Dr Boh Vrbensky, made a speech when presenting this bill to the parliament and it is said to be due to his eloquence that all opposition to the bill was suppressed and the bill accepted unanimously The bill will not appear before the house of commons before the fall season, and as no opposition to it is anticipated there, after such a splendid reception in the senate, it is probable that the bill will become a law late in the fall

Social Medicine Congress

A social medicine congress will be held in Munkac, June 4-7 Munkac is the capital of Ruthenia an autonomous territory within the boundaries of the Czechoslovak republic It is generally known as the most backward province of the republic in matters of hygiene The people of this territory have had very little education, and little was done to educate them in hygiene before the end of the war When the territory joined the Czechoslovak republic, a number of enthusiastic Czech physicians, headed by Dr A Albert, came to this neglected country and have worked ever since for the improvement of conditions Now that the most dangerous epidemic diseases have been controlled, the physicians of Ruthenia are calling their colleagues from the rest of the republic to come to Ruthenia for a congress of social medicine, and are asking the best advice for the development of a local program in social medicine As the congress is well prepared and unusual interest has been aroused, it promises to become a real milestone in the development of public health, not only for Ruthenia but also for the whole of Czechoslovakia

BERLIN

(From Our Regular Correspondent)

June 3, 1922

Tuberculosis Problems

The general meeting of the German Commission for the Campaign Against Tuberculosis was held in Bad Kosen in May In spite of the advantages that large cities offer to conventions, most congresses in Germany are now held in the smaller towns, for the reason that accommodations are procured more easily and more cheaply There is less competition in the way of outside attractions, hence, a better attendance is secured at the scientific meetings In recent years, the spas have become popular as meeting places for congresses The visitors become acquainted with the equipment of the watering place, and this serves as an excellent advertisement The scope of the tuberculosis congress did not measure up to the amplitude of last year's congress which was the first to be held since the opening of the war, hence, many problems growing out of the war were discussed At this year's congress, Kirchner's lecture on the part that human and bovine tubercle bacilli play in the origin of lupus awakened considerable interest Kirchner subjected particles of lupus-infected tissue to careful scrutiny and found that about half of the affections were traceable to bovine tubercle bacilli Welfare work among the tuberculous of the middle classes, who on account of special difficulties in supporting themselves, cannot help themselves to the same extent as formerly, but are obliged at times to accept assistance, was discussed at length In the course of the discussion, it was brought out that, at present, there are many more cases of tuberculosis in families of the middle class than formerly—many more than in working men's families Putter the director of the Berlin welfare center for the middle classes, vouchsafed the information that, among the 8 928 tuberculous patients receiving assistance, there were 1 654 officials, 119 professors, 153 teachers and 88 authors and artists

Scurvy in Berlin

At the last session of the Society for Internal Medicine two cases of scurvy that had developed in Berlin were presented It was in accord with the present-day conception that these cases had arisen owing to a lack of fresh vegetables and potatoes the result of the extraordinarily high prices demanded which put vegetables out of the reach of the poorer classes There seems to be also an actual scarcity of fresh vegetables one assigned reason for which is the large amount exported to foreign countries I am aware that this presents a view as to economic conditions, and especially food conditions prevailing in Germany differing from the one received from newspaper accounts which report observations of feasting in the high-priced restaurants of Berlin That such feasting is participated in mainly by foreigners, who, taking advantage of the favorable exchange rates, are living here on the fat of the land, or at most by some of Germany's newly rich, is a fact not brought out by the foreign press

Fixing of Medical Fees

Physicians in a city of Bavaria adapt the medical fees to the increased cost of living They base their fees on the prevailing price of bread They make this fact known by the following notice, posted in their waiting rooms

> The continual advance in the cost of living compels the physicians to adapt their fees to the sinking value of the mark Until further notice, *therefore the minimum fees will be based on the fees in vogue just preceding the war* (3 marks for a visit 2 marks for office consultation 1 mark for every 2 kilometers of distance traversed) and will be figured in the following manner The current price of a pound loaf of bread will be divided by 15 (in 1914, a pound loaf of bread cost 15 pfennigs) The resulting quotient will be used as a multiplier, and the prewar fees given above will be increased in exact proportion with the increase in the cost of bread

To illustrate The new bread price in Munich is 3 80 marks which is twenty-five times that of 1914 (15 pfennigs) Accordingly, the minimal medical fee for a domiciliary visit would be 75 marks, the office consultation fee, 50 marks, and the mileage allowance for every two kilometers traveled, 25 marks

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Marriages

GEORGE EDWARD WEBB HARDY, Catonsville, Md, to Miss Minnie Gertrude Calary of Jarrettsville, Md, June 10

WILLARD STRICKLAND Wendell, N C to Miss Cleo Mariner of Pocomoke, Md, at Richmond, Va, May 10

EARL VINCENT MORROW to Miss Frances D Coakley, both of Portland, Ore, June 10, at Chehalis, Wash

ROBERT GRAHAM WIATT, University Va, to Miss Marian C Myers, Charlottesville, Va, May 5

SAMUEL GIBBS MILLIKEN to Miss Harriet Elizabeth Bain, both of Galveston Texas, June 24

JESSE LITTLETON MEEKS to Miss Ione Tumlin both of Gainesville, Ga June 1

KENNETH ROSS MCALPIN to Miss Margarethe Potter, both of New York, June 14

WINIFRED VIERS Minneapolis, to David T Wooster of San Jose, Calif, June 13

JOHN TERRELL SCOTT Lynchburg, Va, to Miss Vivian White of Denver June 14

Deaths

Edward Hall Nichols ⊕ Boston, Medical School of Harvard University, Boston, 1892, was taken ill after finishing an operation in a Brookline hospital and died, June 12, from cerebral hemorrhage, aged 58 He was assistant professor in surgical pathology and surgery, 1904-1913, and since 1916, clinical professor of surgery in his alma mater He was also director of the cancer laboratory of the Croft Research Fund, Boston During the World War, Dr Nichols first served as surgeon-in-chief to the first Harvard surgical unit with the British army in France in 1915 Following his return he joined the American Army and served as chief surgeon of U S Base Hospital No 7 in France with the rank of lieutenant-colonel, and was cited by General Pershing for exceptional meritorious and courageous conduct Dr Nichols was a member of the American Surgical Association, American Association of Pathology and Bacteriology, the Society of Clinical Surgery and several other societies

Joseph A Crook, Jackson Tenn , Jefferson Medical College, Philadelphia, 1870, member and former president of the Tennessee State Medical Association, and one of the organizers, and former president of the West Tennessee Medical Association, for thirty-four years a trustee of Union University, for thirty-five years district and division surgeon of the Illinois Central Railroad, died June 12, aged 74

Jacob Chris Lange, Pittsburgh, Pa , Bellevue Hospital Medical College, New York 1875, member of the Medical Society of the State of Pennsylvania, one of the founders and formerly dean and professor of principles of medicine and clinical medicine at the Western University of Pennsylvania, Pittsburgh, at one time president of the Allegheny County Medical Society , died, June 7 aged 67

Conrad William Wilkowske ⊕ Chippewa Falls, Wis , Homeopathic Medical Department of the University of Minnesota, Minneapolis, 1904, member of the Minnesota Academy of Ophthalmology and Oto-Laryngology , was drowned in Round Lake, June 17, aged 47, when the boat from which he was fishing overturned

William V Marmion, Washington D C , University of Pennsylvania School of Medicine, Philadelphia, 1866, served as surgeon in the U S Navy on the flagship *Monongahela* in 1866, in 1883 the degree of Master of Arts was conferred on him by Georgetown University , died, May 24, aged 82, following a long illness

Joseph A Gates ⊕ Kenyon, Minn , University of Minnesota College of Medicine and Surgery Minneapolis, 1895, served in the M C, U S Army, during the World War, with rank of captain, was instantly killed, June 15, aged 52, when the automobile in which he was driving was struck by a train

Charles Bernard Burke, Atlantic, Iowa , Northwestern University Medical School, Chicago, 1906, member of the Iowa State Medical Society , served in the M C, U S Army, during the World War, with rank of captain, was found dead in his office, June 19, aged 42 from cerebral hemorrhage

Hartwell Carver Howard, Champaign, Ill , Starling Medical College, Columbus, 1850, former president of the Champaign Medical Society , member of the city council and board of education, at one time president of the board of trade, died, June 5, aged 92

George A Coors, Memphis, Tenn , University of Arkansas Medical Department, Little Rock, Ark , 1888, Chicago Homeopathic Medical College, 1892, died May 12, at a hospital in Rawlins, Wyo , aged 53 from chronic nephritis and uremia

Joseph Edward Kane, Portland, Ore , University of Oregon Medical School, Portland, 1907, member of the Oregon State Medical Association, on the staff of the St Vincent's Hospital , died, June 8, aged 39, from influenza and pneumonia

Walter C Hemingway, Hemingway, S C , Medical College of the State of South Carolina, Charleston, 1900, died, June 3, aged 45, from burns received in the explosion of a gasoline tank when he was sterilizing some instruments

Ewell Pollett, Jonesboro, Ark , University of Tennessee College of Medicine Memphis 1916, member of the Arkansas Medical Society , was instantly killed, June 16, aged 33, when the automobile in which he was driving overturned

John Wilson Wood, Lindsay, Ont , Victoria University Medical Department, Toronto Canada, 1869, member of the board of education, formerly mayor of Lindsay , at one time warden of Victoria County , died, March 2

Franklin P Gates, Manteo, N C , Bellevue Hospital Medical College, New York, 1886, member of the Medical Society of the State of North Carolina, died, May 20, at Norfolk, Va aged 62, from valvular heart disease

George M Glaser ⊕ Chicago, Rush Medical College Chicago, 1892, practitioner in Chicago for nearly thirty years died June 26, at St Luke's Hospital, aged 53, from spinal meningitis, following an operation

Clarence Warfield ⊕ Baltimore, Baltimore Medical College Baltimore, 1891, member of the American Academy of Ophthalmology and Oto-Laryngology , died, May 10, aged 56, from pulmonary tuberculosis

Joseph Richard Culkin ⊕ Rochester N Y , Bellevue Hospital Medical College, New York, 1887, on the staff of the St Mary's Hospital , member of the board of health, died suddenly, June 9, aged 55

Henry Thomas Rooney, San Francisco, Cooper Medical College San Francisco, 1902 member of the Medical Society of the State of California , died, June 3 aged 45, from angina pectoris and myocarditis

Robert Burns Harriman, Worcester, Mass , University of Vermont College of Medicine Burlington, Vt , 1903, on the staff of the Worcester State Hospital , died, June 6, aged 45, from pneumonia

Moses Cline Hughey, Marianna, Ark , Memphis Hospital Medical College Memphis, 1903, member of the Arkansas Medical Society died, May 28, aged 44, at Hot Springs, from uremia

Frederick Rovitti, New York, Medico-Chirurgical College of Philadelphia 1914, served during the World War in the M C U S Army died, June 13, at Wilmington, Del , aged 30

Paul Boyton Doyle, Pittsburgh, Western Pennsylvania Medical College Pittsburgh 1897, member of the Medical Society of the State of Pennsylvania , died, June 6, aged 47

Jesse D Dickinson, Galva Ill Hahnemann Medical College and Hospital of Chicago, 1874, died, June 10, aged 75, at the Galesburg Cottage Hospital, following an operation

Edwin Owen Woods ⊕ Chicago, Rush Medical College Chicago, 1912 assistant surgeon U S Public Health Service, formerly stationed at Manila P I , died, June 26, aged 37

Ambrose William Jones ⊕ Owingsville Ky , Kentucky School of Medicine Louisville, 1890, died, June 8, aged 51, at the Good Samaritan Hospital following an operation

Andrew Jackson L Dennis, Montgomery, Ala , Southern Medical College, Atlanta, Ga , 1890, member of the Medical Association of Alabama , died, April 12, aged 66

Frederick D Sowden, Philadelphia, Jefferson Medical College Philadelphia, 1883, member of the Medical Society of the State of Pennsylvania , died, June 6 aged 50

Herman Amos Jergesen, Tulsa, Okla , Wisconsin College of Physicians and Surgeons Milwaukee, 1912, was shot and instantly killed by his wife, May 25, aged 38

Albert Lauder Kinsey, Gravenhurst, Ont , University of Toronto Faculty of Medicine Toronto Canada, 1908, died April 29, aged 37, following a long illness

Clarence Lloyd McNett, Towanda, Ill , College of Physicians and Surgeons, Chicago, 1903, was killed, June 21, in an automobile accident, aged 43

Joseph C Cleveland ⊕ Bald Knob, Ark , Missouri Medical College, St Louis, 1888, served as mayor of Bald Knob for ten terms , died, June 4, aged 69

Corydon Eugene Rogers, Seattle, Medical Department of the University of the City of New York, 1868, Civil War veteran , died, May 29, aged 79

Nils Albin Killberg ⊕ Chicago Hahnemann Medical College and Hospital of Chicago, 1918, died, June 20, aged 33, from septic pneumonia

Rudolph Meyer ⊕ Chicago Bennett College of Eclectic Medicine and Surgery Chicago, 1903, died, April 14, aged 43 from paresis

John W Mebane, Paris Ky Meharry Medical College, Nashville, 1894, died, June 11, aged 56, from septicemia

John Frederick Baker, Davenport, Iowa , Bellevue Hospital Medical College, New York, 1868, died, June 16, aged 76

Clara Augusta Williams, Boston (years of practice), died, April 14, aged 73, from heart disease

⊕ Indicates Fellow of the American Medical Association

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

"MEDICAL" TESTIMONIALS FOR CHIROPRACTIC

Opinions of Some Alleged Well-Known Medical Men on Chiropractic

Chiropractors affect with 'patent medicine' fakers, a fine disdain for scientific medicine and the medical practitioner How readily, however, do both seize with avidity on any statement made by an individual who may be presumed to have the right to put 'M D" after his name—provided that statement seems favorable to the cause, or may be so twisted as to make the public believe that a reputable physician has spoken a good word, either for chiropractic or the nostrum industry

For some time there has been going the rounds a chiropractic advertisement purporting to quote "Opinions of Well Known Medical Men" on chiropractic The material obviously emanates from one of the chiropractic 'ad" factories These make a business of supplying the individual chiropractor with advertising copy that he because of his educational deficiencies, would be unable to write for himself Realizing that a chiropractic diploma may be obtained even by those who never reached the eighth grade of the secondary schools, these chiropractic advertisement factories doubtless, meet a need of the trade.

According to these stock advertisements

> " there is an ever increasing number of M D's all over the United States and Canada who understand, appreciate and practice straight Chiropractic to the exclusion of medicine and every other method, as witness the following selected at random

Then follow what purport to be quotations from physicians For a while these advertisements contained a quotation credited to Dr Charles Mayo and reading "The drugless healer is one of the best things that has come into the life of the present" Of course, Dr Mayo never made such a statement or anything resembling it, but the reiteration of the falsehood was such that he found it necessary to publicly deny, through the pages of THE JOURNAL, the preposterous canard The advertisements also contained an alleged quotation from Dr Richard Cabot. Whether Dr Cabot ever made the statement or not is immaterial, as by no stretch of the imagination can it be twisted into an endorsement of chiropractic Sandwiched in, however, between a number of blatant testimonials for chiropractic, it, doubtless, serves the purpose intended

The rest of the testimonials credited to alleged physicians will be given in detail and following the quotation a brief statement of what was found regarding the individuals quoted. It is to be borne in mind that the biographical data on file in the American Medical Association's offices are based on official information and have been checked and rechecked It may, therefore be assumed that the information is as accurate as can humanly be expected While the quotations in the advertisements are not arranged in alphabetical order, we will present them in that sequence for the purpose of more ready reference

LEE W EDWARDS M D Omaha — Chiropractic truth is so simple so mathematically exact that it seems too good to be true

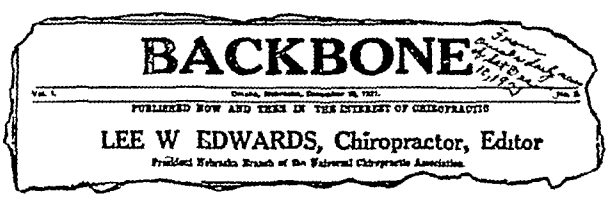
According to our records Lee W Edwards was born in 1870, was graduated in 1893 by the University of Nebraska, College of Medicine He was licensed to practice medicine in Nebraska in 1894 and also holds a license in Wyoming His name appears in the Propaganda files as one of a committee protesting against compulsory vaccination His name also appears as the "state vice-president' of the "American Medical Liberty League" an organization of "drugless healers and 'patent medicine" makers We have, too, a quarter page advertisement in our files from the *Western Medical Review* of June 1920, in which Edwards holds himself out as a chiropractor and solicits "spinal X-Ray work"

R C ELLSWORTH M D Astoria Oregon —"If I were confined wholly to one branch of therapeutics I would choose Chiropractic unhesitatingly I hesitate to state the number of women I have helped to health and the evasion of the surgeon's knife thru Chiropractic adjustments alone

In some of the advertisements the initials of this person are given as R E We have no record of any man of the name of R C Ellsworth or R E Ellsworth ever holding the title of 'M D or being licensed to practice medicine

E W FEIGE M D Huron S D —"There are many Chiropractors who in certain kinds of cases I am convinced, do vastly more good than the most highly educated physician

This man according to our records was born in St Joseph, Mo in 1871 was graduated in 1895 by the Chicago Homeopathic Medical College The records also indicate that Feige was one of the incorporators of a preposterous organization calling itself the "Association of Independent Doctors" which was brought into existence, according to its creator, "to combat the Medical Trust"—meaning the American Medical Association Feige's name also appears as a member of the "staff (Heaven save the mark!) in 1910 of the "Weltmer Institute of Suggestive Therapeutics" At that time the following letters appeared as a suffix to Feige's name "M.D D O Oph D, D C" Whether Feige has accumulated any more nomenclatorial appendages during the past twelve years, we do not know


BACKBONE

PUBLISHED NOW AND THEN IN THE INTEREST OF CHIROPRACTIC

LEE W EDWARDS, Chiropractor, Editor

Reproduction (reduced) of an advertisement in an Omaha newspaper Evidently L W Edwards is featured as a physician only when it suits chiropractic needs

JOH A. FISHER M D Philadelphia —"The Chiropractors are working marvels so wonderful that even members of the medical fraternity are taking notice of their great work.

This man apparently, spells his name both "Fisher" and 'Fischer and the latest Philadelphia telephone directory has him classified both under "Chiropractors' and under "Physicians Fischer according to our records, was born in 1872 and was graduated in 1895 by the Hahnemann Medical College and Hospital of Philadelphia Needless to say, Fischer is not a member of his local medical society but, according to the latest issue of the Philadelphia telephone directory he is a member of the "Philadelphia County Chiropractors Association

FRED L FISCHER M D D C Philadelphia Pa — 'In the acute cases one gets marvelous results Do not be afraid of such cases In adjustments you have absolute control and after a little experience you will soon realize you have an unequaled health system in your hands I am in better shape to say that because I have gone through every stage of mixing until today I am an out and out Chiropractor

The records fail to show that any man of this name has any right to call himself M D ' or has ever been licensed to practice medicine neither does the latest Philadelphia telephone directory show any man in the city of Philadelphia of this name, chiropractor or otherwise

A A GREGORY M D — Under spinal adjustments acute diseases are cut short and aborted and chronic diseases recover which have been believed to be incurable.

This presumably refers to Alva E Gregory, not "A A Gregory" This man according to the records, was graduated in 1897 (when he was thirty-six years old) by the University of Texas Medical Department. A few years ago

Gregory was editor of the *Progressive Physician* which carried advertisements of various chiropractic institutions and also announced 'To the Progressive Physicians of America" the fact that Alva E Gregory was giving post-graduate courses" in "Chiropractic Spondylotherapy" The publication also carried advertisements of the "Gregory Office Supply Company," Alva Emery Gregory, secretary This company sold "Gregory's Motor Traction Table" which would "remove the infirmities of old age, cause the paralyzed to walk" and "restore health and vigor of youth" In addition to being editor of the *Progressive Physician* and secretary of the Gregory Office Supply Company, Alva Emery Gregory seems to have been President of the "Palmer-Gregory Chiropractic College" of Oklahoma City A "well known medical man," indeed!

H G GOULD M D Nephi Utah — I have been keeping my eyes open and observing cases under Chiropractic adjustments I am convinced of the superior merit of this form of health practice

According to the records, this man, now in Spokane, Wash, was graduated in 1884 by the Fort Wayne (Ind) College of Medicine, now defunct Gould's name appeared in the medical directories from 1886 to 1900 at Medicine Lodge, Kansas, and St Louis, Mo It does not appear again until 1918, when it is found under McKinney Texas In the same letter from which the quotation given above appears, Gould tells why he 'abandoned medicine" In this letter we read I have seen a beautiful girl of eighteen years die with all the symptoms of morphine poisoning after I had given her as medicine ⅛ grain of morphin sulf I have known ¼ gram of calomel, which I gave as medicine, to cause every tooth to drop from my patient's head"

F A HALL M D D C Indianapolis — When Chiropractic was brought to my attention I listened to seemingly extravagant statements relative to it and I was offended because it reflected odium on the old time honored profession in which I no longer sincerely believe In time it dawned on me however that Chiropractic patients who had from a medical standpoint been considered hopeless cases such as those with rheumatism diabetes Bright's disease infantile paralysis and many other maladies were getting well so that I began to read up on Chiropractic The more I read about it the more I saw it to be the means of true salvation from the curse of disease

The records fail to show that this man is entitled to write M D" after his name or has any license to practice medicine The Indianapolis telephone directory classifies Hall as a chiropractor" only Hall carries a display advertisement

Reproduced in miniature from the Indianapolis telephone directory Here too the M D becomes D C when seeking business

(reproduced in miniature) spread the width of the page in his local telephone directory and claims therein to have been Formerly a Medical Doctor and Pharmacist '

D T KRUDOP M D — Clinical records show that there is hardly a recognized germ of disease that cannot be successfully treated by Chiropractic adjustments

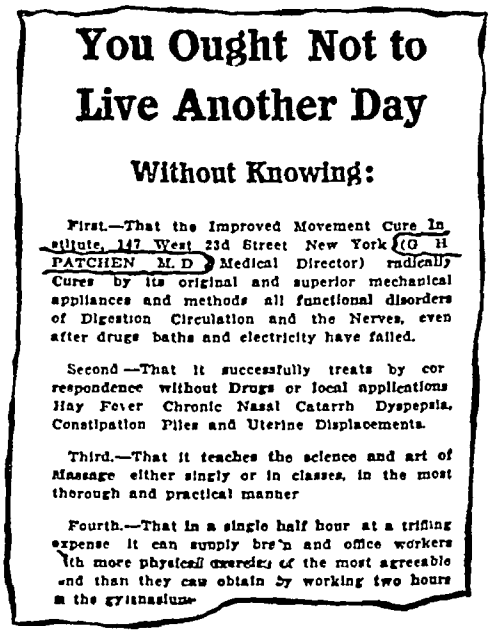
This man was graduated by the Hahnemann Medical College in 1888 He died in January, 1917 His testimonial is still going strong

G H PATCHEN M D, New York — Chiropractic removes the cause of disease more promptly radically and permanently than any other known method

This man, according to the records, was born in 1845 and was graduated in 1886 by the New York Homeopathic Medical College Patchen was for some years advertised as the Medical Director' of the "Improved Movement Cure Institute" which, according to the advertisements, "Radically cures, by its original and superior mechanical appliances and methods, all functional disorders of digestion, circulation and the nerves, even after drugs, baths and electricity have failed" The Institute also "successfully treats by correspondence" uterine displacements and various other conditions! In the April, 1922, issue of the official organ of the egregious "Allied Medical Associations of America," we find Patchen given as "Chairman" of the section on "Drugless Therapy" and also as "Chairman" of the section on "Irodology"—whatever this may be

E G RUTHERFORD, M D Birmingham Ala — 'Chiropractors are obtaining results that I could not have obtained with medicine or surgery

Rutherford, according to the records, was graduated by the University of Alabama School of Medicine in 1909—when he was thirty-eight years old We have in our files an advertisement of Rutherford's in which he tells of his conversion



You Ought Not to Live Another Day

Without Knowing:

First.—That the Improved Movement Cure Institute, 147 West 23d Street New York (G H PATCHEN M D Medical Director) radically Cures by its original and superior mechanical appliances and methods all functional disorders of Digestion Circulation and the Nerves, even after drugs baths and electricity have failed.

Second.—That it successfully treats by correspondence without Drugs or local applications Hay Fever Chronic Nasal Catarrh Dyspepsia, Constipation Piles and Uterine Displacements.

Third.—That it teaches the science and art of Massage either singly or in classes, in the most thorough and practical manner

Fourth.—That in a single half hour at a trifling expense it can supply brain and office workers with more physical exercise of the most agreeable and than they can obtain by working two hours in the gymnasium.

One of the advertisements of the Improved Movement Cure Institute of which G H Patchen was Medical Director

from medicine to chiropractic and states that he had associated with him a chiropractor who, says Rutherford, is 'giving adjustments and obtaining results that I could not have obtained with medicine or surgery" Rutherford's name appears in the Birmingham telephone directory classified as a chiropractor," and not as a physician

WM A SEELEY M D D C —' Results are what count and Chiropractic adjustments when scientifically given bring them notwithstanding what our medical friends (?) may say to the contrary '

The records show that William A Seeley was born in 1847 and was licensed to practice medicine (Homeopathy) in Iowa many years ago on the basis of 'years of practice" There is nothing to show that Seeley was ever graduated in medicine Seeley admitted in a letter to a chiropractic concern that he had practiced medicine twenty years, osteopathy four years and chiropractic seventeen years Seeley died in February, 1918, his testimonial still lives

JOHN M SHALLER M D Cincinnati — Many chiropractors are adjusting from ten to fifty patients a day to the satisfaction of the majority of their patients Most of these patients are chronics who made the rounds of the various kinds of treatment, both regular and irregular The results would astonish any medical man who would make an investigation '

John M Shaller, according to the records was born in 1856 and was graduated in 1874 by the Cincinnati College of Medicine and Surgery, which went out of existence twenty years ago Shaller is the author of a pamphlet, published in 1917, entitled "Cramps in the Feet Caused by Vertebral Subluxations"

W H SHUMLEY M D — Eighty per cent of the population are afflicted with some form of spinal defect that is the cause of so much nervousness, indigestion headache rheumatism mental weakness and other grave and dangerous diseases

In some of the advertisements this name is given as "W H Schumpley, M D," but in none of the advertisements is

an address given We have no record of any individual of either name having been graduated in medicine or licensed to practice

W W YORK M D City Point Va —"I am convinced of the superior method of the Chiropractic form of health practice"

The records fail to show any man of this name as a graduate in medicine or licensed to practice medicine

ALFRED WALTON M D, Philadelphia — Chiropractic reaches successfully a larger number of so called chronic diseases and is so much superior to the drug method that it is truly laughable to compare them"

This man was graduated by the Harvard University Medical School in 1879 In 1880 he was practicing in New York City as a physician and at the same time manufacturing and selling "Walton's Oxygen For Consumption Pneumonia, Anemia, etc" Between 1914 and 1917 Walton moved to Philadelphia where he began practicing as a chiropractor He had no license to practice medicine in that state but was licensed to practice drugless therapy Walton's testimonial is still doing service although Walton himself died in February, 1920

Correspondence

FAILURE OF DIAGNOSIS OF MASTOIDITIS

To the Editor —Drs Isidore Friesner and Wendell C Phillips (THE JOURNAL, June 10), in reporting five cases of mastoiditis with atypical symptoms, conclude that textbooks and teachers have failed to describe this condition adequately to students I feel that the average medical student in the best schools is not only not taught to diagnose atypical mastoiditis but also is not taught to diagnose any mastoiditis

A physician of good reputation as to ability recently solemnly assured me that a patient did not have mastoiditis because no postauricular edema was present, and as to any of the other textbook signs, he did not know whether they were present or not After I had been in general practice for some years and had done a fair amount of major surgery I saw a child with a moderate rise of temperature and a pain in the ear The tympanum ruptured spontaneously the next day, and the discharge was profuse In my blissful ignorance I told the mother that all was now well, and that the child would be well soon, but the child died in a few days from meningitis

Recently the case of a child aged 4 years who had had a chronically discharging ear for the past two years, was brought to my attention Three days before I saw the child the discharge ceased rather suddenly, the child began to cry and put the hand to the side of the head, the temperature began to go up, and the child developed a facial paralysis on that side A regularly qualified physician was called who told the parents that there was nothing seriously wrong and that the child would be all right in a few days Three days later another physician was called In addition to the previous symptoms the child now showed postauricular edema, a temperature of 102, pulse 140 and respiration 44 The child was sent immediately to the Presque Isle General Hospital, where I saw her first The child arrived in a semistuporous condition I operated on the child at once There was a subperiosteal abscess, a mastoid full of foul smelling pus under a good deal of tension, and a moderate sized perisinuous abscess In spite of an immediate operation, a radical opening of the sinus and resection of the jugular the child went from bad to worse and died in two days with symptoms of septic pneumonia

In the smaller cities and towns the condition described will more frequently come first under the observation of the general practitioner rather than under that of the otologist It is usually on the general practitioner that the burden of the early diagnosis of this condition falls From my own experience and the evidence about me I feel that the great majority of medical students do not receive proper and sufficient instruction on this subject

J L JOHNSON, M D, Presque Isle, Maine

"PERFORATING ULCERS OF THE CECUM"

To the Editor —In THE JOURNAL, June 10, 1922, p 1792, Dr G K Dickinson reported three cases of perforating ulcers of the cecum No very satisfactory explanation of this condition was advanced, although it was suggested that one case was due to 'hemorrhagic cecitis" and the others to "a primary inflammation of the adenoid tissue" of the cecum Emphasis was placed both in the article and in the discussion on the possible primary role of bacterial infection

After a careful perusal of the three reported case histories, may I suggest that Dr Dickinson may have been dealing with instances of acute, subacute or chronic obstruction of the large intestine at some point far distal to the cecum What the exact cause of the ileus may have been is immaterial, but it is known that colonic obstruction of any kind is not infrequently associated with ulceration and even perforation at points proximal to the site of the primary condition, and that a favorite location for such a secondary pathologic condition is in the cecum These so-called Dehnungsgeschwure' (distention ulcers) were described some time ago by Kocher They have no special relation to the lymph follicles They may be single or multiple, they may vary in size from a pin point to a large rent, and they may be round or irregular, with punched out or undermined edges Detailed studies on this subject are those of von Greverz (*Deutsch Ztschr f Chir* **77** 57, 1905) and of Shimodaira (*Mitt a d Grenzgeb d Med u Chir* **22** 229, 1910) and a brief but satisfactory account is available in the second (1921) edition of Schmidt-von Noorden's Klinik der Darmkrankheiten pp 631-632 Bacterial invasion plays only a secondary role in this phenomenon

The object of this communication, however, is not so much to suggest a more satisfactory explanation of the ulcers in question as it is to stress the general proposition that, in any form of distal colon obstruction, right colon stasis and right colon symptoms may be predominant, and unless the physician is on his guard a diagnosis of "some form of appendicitis is made—as it was made in each of the three cases reported When the clinical picture is not acute and only a *mild chronic or recurrent* obstructive condition is present in the distal colon a diagnosis of "chronic appendicitis" is almost invariably accepted unless careful consideration is given to the possibility mentioned above

This possibility is unfortunately not generally accorded the recognition it merits, and I therefore discussed it at some length in a recent paper (On Five Common Clinical Types of Appendicitis, *M Clinics North America* **5** 1081 [Jan] 1922) under the head of Type III of the classification therein presented Patients suffering from this type of so-called appendicitis may complain of intermittent or constant pains along the course of the colon, very commonly in the right lower quadrant, and not infrequently associated with palpable cecal erections Careful study and the judicious employment of special diagnostic methods such as the roentgen ray, will bring out a clinical picture that strikingly resembles in miniature that of obstructing distal colon carcinoma for example with the difference that in the case under discussion we are dealing with long-standing, benign factors such as spastic constipation, redundancy of the splenic or pelvic colon with or without recurrent incomplete volvulus some forms of

colitis, and anorectal conditions such as dyschezia and spasm, whether idiopathic or secondary to local disease (fissure, ulcer, hemorrhoids) Any such obstruction to the fecal column, particularly when the effect is intermittent or recurrent, tends to throw back the contents to the head of the colon (exaggerated antiperistalsis), and thus brings on the usual sequence of hypertrophy and dilatation, with local irritation and subjective discomfort

It is much to be desired that a wider recognition of this really common syndrome will lead to correct diagnosis and appropriate treatment, and so prevent not only the possible terminal stage of 'perforating ulcers of the cecum," but also the injudicious and unhelpful removal of innumerable "chronically diseased appendixes" that do not exist in reality

JOHN L KANTOR, M D, New York

THE CASE OF WILLETTA HUGGINS

To the Editor —I have no quarrel with Professor Jastrow, as I am neither a psychologist nor an oculist, but I presided at the meeting of the Chicago Medical Society when the case of Willetta Huggins was presented, and I believe that, in justice to the intelligence of the audience, those who read his article in THE JOURNAL of June 17 should know how the sight test was applied before the Chicago Medical Society

A pair of ordinary dust goggles was used, and over each glass was placed a piece of dark paper, and then a heavy pad of cotton I placed these over my own eyes first, and then over the eyes of Miss Huggins

If this young lady read with a slit of vision as Professor Jastrow states when she performed the tests before our members, it is even more marvelous than his theory of the will to believe"

J S NAGEL M D Chicago
President, Chicago Medical Society

MEDICAL TERMINOLOGY IN GERMANY

To the Editor —Peculiar results of the European war continue to crop up in unexpected—or at least unforeseen—places, from time to time This is true not only in politics geography and finance, but in art and science as well In 1920, the Vereinigung der deutschen medizinischen Fachpresse designated a commission to collaborate with the Deutsche Gesellschaft fur innere Medizin in selecting German terms which might replace French and English expressions that have been so long in use in medical literature as to have become in many instances a part of the medical language of all nations The *Deutsche medizinische Wochenschrift* (48 493, 1922), the *Munchener medizinische Wochenschrift* (69 454, 1922) and other medical periodicals from Germany report the results of this collaboration and give the list of the French and English phrases to be interdicted and their German equivalents Of these new terms, many successfully convey their exact meaning at a glance, others require a little thoughtful investigation, while still others are composed etymologically of elements so nontechnical that their medical meaning is not easily arrived at—unless, perhaps, by a person "born in (the) two languages"—French and German or English and German Taking into account German unity and the German habit of discipline, we may assure ourselves that this terminology will secure instantaneous and universal adoption at the hands of writers on professional themes in Germany, and that such old friends as "contrecoup" and "tic douloureux" will disappear henceforth from German medical literature It thus becomes important that those who avail themselves of the German periodicals—and especially those engaged in bibliography and the work of classification—should have at hand the list (which is appended) of the new German expressions and their older French and English equivalents

New Terms	Former Terms
Abwehrspannung	*defense musculaire*
ausserer Harnrohrenschnitt	boutonniere
Alopecia atrophicans	alopecie atrophiante
Binnenverletzung(des Kniegelenks)	derangement interne
Docht	*meche*
Drehtick	tic rotatoire
Einkerbung (des Bruchringes)	debridement
Florentiner Seide	fil de Florence
Gegenstoss	contrecoup
gemischter Schanker	chancre mixte
Gerausch des gesprungenen Topfes	bruit de pot fele
Geschlechtsverwechslung	erreur de sexe
gewaltsame Entbindung	accouchement force
gewaltsame Richtigstellung	redressement force
gewaltsames Beweglichmachen	brisement force
Glanzhaut	glossy skin
gleichsinnige Abweichung	deviation conjuguee
Herzbuckel	voussure
kleiner epileptischer Anfall	petit mal
Klopfbehandlung Beklopfung	tapotement
knotige parenchymatose Hepatitis	hepatite parenchymateuse nodulaire
Kolbenfinger	*osteoarthropathie hypertrophiante pneumatique*
Kreisbogenstellung	arc du cercle
Larva migrans	creeping disease
Malum perforans	mal perforant
Massen (reposition)	en masse
moralischer Schwach sinn	moral insanity
Mückensehen	mouches volantes
Muskeltick	tic convulsif
Nachblassen der Haut	dermographie blanche
Panzerkrebs	cancer en cuirasse
Peyersche Haufen	Peyersche plaques
Pulsdruck	amplitude
Pulshohe	altitude
Ruckansteckung	choc en retour
Rucklaufkatheter	catheter a double courant
Schleimhautpapeln	plaques muqueuses
Schmerztick	tic douloureux
Schwirren	fremissement
Sclerosis redux	chancre redux
Syphilis ohne Primaraffekt	syphilis d emblee
Tickkrankheit	maladies des tics
unausgepragte Basedowkrankheit	Basedow fruste
unausgepragte Formen	*formes frustes*
unbewusst erworbene Syphilis	syphilis ignorée
Syphilis insontium	
Vergleichsfarbe	teinte
Wandertrieb	Fugue-Zustande
warzenahnlicher Zustand	etat mamelonne
Wasserkopfschrei	cri hydrencephalique
Weissfleckenkrankheit Leukoderma	white spots disease
zwanglose Behandlung	no restraint
Zwiemilchernahrung	allaitement mixte
Zuckerstich	piqure

A N TASKER, M D, Washington, D C
Major, Medical Corps, U S Army,
Associate Editor, Index Medicus

[COMMENT—It remains to be seen whether language can be created by edict in the new Germany —ED]

"MEDICAL EDUCATION"

To the Editor —I have just read (THE JOURNAL, June 3 p 1743) certain reflections of a student relative to medical education Now for some suggestions anent that topic from the practitioner s standpoint

In my humble opinion (M D, Columbia, 1904) too much study is required of a purely theoretical nature The subjects of physiologic chemistry, materia medica, comparative anatomy etc, while extremely interesting have too many hours of the course devoted to them Would it not be wiser to focus on twenty drugs and have a broad, indelible knowledge of these, rather than ramble along over all the pharmacopeia? One should learn twenty drugs thoroughly and well, and read up the other 999 as parallel

What does the young graduate know of such topics as distribution of physicians in the United States, office equipment —how many rooms, where best to locate in a city or town, a roentgen-ray room, laboratory, bill collecting, how to go about it, how to collect difficult bills, office nurse, relation-

ship to hospitals, group practice clinics, insurance needs, protective accident, etc., with good safe companies, income tax laws, private sanatoriums and hospitals their outlook from a commercial and professional standpoint, connecting up with industrial work how to arrive, safe investments for the busy physician and the difference between stocks and bonds and oil wells?

I could fill a page with practical matters that are sure to be encountered by the young graduate immediately on emerging from school or hospital to practice—matters vital to his success and progress—yet matters which are not even mentioned by the school that is supposed to equip him for his business The gist of this protest is that the practical commercial material side of the practice is just about wholly neglected in our schools By hard knocks, costly errors and humiliations galore the aspiring medico learns in the hard field of life what he could have at least glimpsed somewhat in a much handier, less expensive shape in his good old alma mater

A commercial salesman or business man nowadays is not sent out to deal with the public until he is thoroughly schooled from every conceivable angle—he is even taught psychology His deportment, his dress his method of approach as well as his goods are studied with anxious care His corporation sees to that When will our medical schools create a business branch of the teaching—that limb from which depends the bread and butter?

JOHN C SILLIMAN M D Palo Alto, Calif

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address but these will be omitted on request

DIGALEN

To the Editor —I am writing for information concerning the drug Digalen about which I believe the Council on Pharmacy and Chemistry has made a ruling The drug is in common use in this hospital though I have never ordered it and I believe that definite information concerning its action or lack of action together with accurate data would be of interest GEORGE FOSTER HERBER M D New York

To the Editor —I have had considerable occasion this winter to use the digitalis preparation called Digalen sold by the Hoffman La Roche Chemical Works and made in Switzerland I have seen very fine results from its use especially in pneumonia and I and other men here are anxious to have your report on it provided you have gone over it in the class of New and Nonofficial Remedies Your answer to this will be sincerely appreciated by myself and other local men

L H NOWACK M D Watertown Wis

ANSWER.—Digalen was introduced with the claim that it was soluble amorphous digitoxin (a substance unknown to chemists) and with the claim that it possesses all the advantages and none of the disadvantages of digitoxin such as cumulative effects and the production of nausea (claims which have been made for many proprietary digitalis preparations but always proved untenable)

In 1909, the Council on Pharmacy and Chemistry admitted digalen to New and Nonofficial Remedies after the manufacturer had discontinued the palpably unwarranted claims which had been made for the preparation The Council did not determine whether digalen contained soluble amorphous digitoxin' but accepted it merely as a standardized and fairly stable digitalis preparation In 1910 (THE JOURNAL Jan 1 1910, p 35) Hale reported that a review of the literature contradicted the claims made for digalen that digalen deteriorated with age, that it was relatively much less potent than corresponding amounts of crystalline digitoxin and that it was of about the same activity as digitalein As a result of Hale's report the Council in 1912 revised the New and Nonofficial Remedies description by omission of the statement that it is a fairly stable digitalis preparation A biologic study made at the University of Cambridge in 1912 (THE JOURNAL, Dec 7 1912, p 2074) indicated that digalen is not superior to an active tincture of digitalis

In 1913, Hatcher and Eggleston (THE JOURNAL Feb 15 1913 p 499) demonstrated that digalen was not devoid of the emetic action of digitalis preparations They reported that the relatively high emetic action of digalen was unmistakable while its action on the heart was less than claimed Hatcher and Eggleston (THE JOURNAL July 19, 1913, p 202) also found digalen very variable in strength, perhaps because of its low alcohol content

In view of increased extravagance of the claims for digalen the Council in 1915 made a reexamination of this product The Council concluded that the presence of amorphous digitoxin in digalen had not been established that digalen was variable in composition and action and that it produced the same gastric disturbances as other digitalis preparations The manufacturer offered to hold the claimed presence of amorphous digitoxin in abeyance but insisted on the claim that digalen was uniform in action and that it did not produce gastric disturbance In view of the insistence on these disproved claims the Council omitted digalen from New and Nonofficial Remedies (THE JOURNAL Sept 5 1914 p 881)

There is no available evidence to indicate that digalen has any advantage over tincture of digitalis or the infusion of digitalis for oral administration, and there is no evidence that it is equal to ouabain or strophanthin for intramuscular or intravenous injection With a better knowledge of proper dosage—as advocated for instance, by Eggleston (THE JOURNAL March 13 1920, p 733)—an increasing number of practitioners find that except in exceptional cases the desired action of digitalis may be obtained by the administration of the official tincture of digitalis

COLLOID BATHS IN TREATMENT OF DERMATITIS EXFOLIATIVA

To the Editor —Please describe what is meant by colloid baths as used in the treatment of dermatitis exfoliativa occurring after the administration of arsphenamin I have seen several references in which colloid baths were recommended but have no description of this special point in treatment Please omit my name —— W Va

ANSWER.—Colloid baths as used in the treatment of dermatitis exfoliativa are baths containing bran starch gelatin or similar substances A suitable colloid bath can be thus prepared Two cups of oatmeal are added to 2 quarts (liters) of water and boiled The boiled oatmeal is then placed in a bag and the bag hung in a bathtub of water at a temperature of 100 F One cup of sodium bicarbonate is then added The bath is employed for twenty minutes three times a day Lassar's paste without salicylic acid, or any other bland salve may be used in the intervals between baths

PREPARATION OF FERRI HYDROXIDUM CUM MAGNESII OXIDO

To the Editor —This being the season when much arsenic is being used on potatoes and garden truck I want to obtain a definite formula for preparing the antidote (ferri hydroxidum cum magnesii oxido) The United States Pharmacopeia and your Epitome of the U S Pharmacopeia and other works say to take 10 fluidrams of solution of ferric sulphate Does this mean a saturated solution? If not how much ferric sulphate should be used? Should the final mixture of the iron and magnesia be greenish? G C MOOREHEAD M D Idagrove Iowa

ANSWER.—The directions of the U S Pharmacopeia for the preparation of ferri hydroxidum cum magnesii oxido are most explicit and easily followed The iron solution used in the preparation of the arsenic antidote is the pharmacopeial solution of ferric sulphate Since a ferric solution is used the precipitate which is produced when the ingredients are mixed has the reddish-brown color of ferric hydroxid The greenish color to which our correspondent refers would be obtained if a solution of ferrous sulphate had been used

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Leprosy in Japan.—According to police reports there are 16,261 lepers in Japan which is lower than the actual numbers since the police report only advanced cases There are five government leper hospitals in Japan the largest of which is located in Maruyama-Mura near Tokyo Only voluntary cases in more or less advanced stages are taken in these hospitals as there is no compulsory segregation

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA Montgomery July 11 Chairman Dr Samuel W Welch Montgomery

ARIZONA Phoenix July 6 7 Sec Dr Ancil Martin, 207 Goodrich Bldg Phoenix

COLORADO Denver July 5 Sec, Dr David A Strickler 612 Empire Bldg Denver

CONNECTICUT Hartford July 11 12 Sec Reg Bd, Dr Robert L Rowley 79 Elm St, Hartford

CONNECTICUT New Haven July 11 Sec, Eclec Bd, Dr James Edwin Hair 730 State St Bridgeport Sec Homeo Bd Dr Edwin C M Hall 82 Grand Ave New Haven

DISTRICT OF COLUMBIA Washington, July 11 Sec Dr Edgar P Copeland Stoneleigh Court Washington

HAWAII Honolulu July 10 Sec Dr G C Milnor 401 Beretania St Honolulu

INDIANA Indianapolis July 11 13 Sec Dr W T Gott State House Indianapolis

MAINE Augusta July 5 6 Act Sec Dr Adam P Leighton Jr 192 State St Portland

MASSACHUSETTS Boston July 11 13 Sec Dr Samuel H Calderwood 144 State House Boston

NEW MEXICO Santa Fe July 10 11 Sec Dr R E McBride Las Cruces

NORTH DAKOTA Grand Forks July 4 7 Sec Dr G M Williamson 860 Belmont Ave Grand Forks

OKLAHOMA Oklahoma City July 11 12 Sec Dr J M Byrum Shawnee

OREGON Portland July 4 Sec Dr Urling C Coe 1208 Stevens Bldg Portland

PENNSYLVANIA Philadelphia and Pittsburgh July 11 Sec, Mr Thomas E Finnegan State Capitol Harrisburg

RHODE ISLAND Providence July 6 7 Sec Byron U Richards State House Providence

SOUTH DAKOTA Waubay July 18 Director Dr H R Kenaston, Bonesteel

UTAH Salt Lake City July 5 Director Mr J T Hammond State Capitol Salt Lake City

WASHINGTON Olympia July 11 Sec Mr William Melville Olympia

WEST VIRGINIA Martinsburg July 11 State Health Commissioner Dr W T Henshaw Charleston

New York January Examination

Mr Herbert J Hamilton, assistant, professional examinations, New York State Board of Medical Examiners, reports the written examination held at Albany, Buffalo, New York and Syracuse, Jan 23-26, 1922 The examination covered 8 subjects and included 80 questions An average of 75 per cent was required to pass Of the 140 candidates examined, 115 passed and 25 failed The following colleges were represented

PASSED College	Year Grad	Number Licensed
Denver College of Medicine	(1902)	1
Yale University	(1921)	1
Georgetown University	(1921)	1
George Washington University	(1915) (1920)	2
Howard University	(1920) (1921 2)	3
Emory University	(1921)	1
Rush Medical College	(1921)	1
University of Louisville Medical Department	(1919)	1
Tulane University	(1921)	2
Bowdoin Medical School	(1920)	1
Johns Hopkins University	(1919) (1920)	2
University of Maryland	(1915) (1921)	2
Boston University	(1921)	1
Harvard University	(1914), (1916 2) (1919 3) (1920) (1921, 2)	9
Tufts College Medical School	(1920)	2
University of Michigan Medical School	(1919) (1921)	2
St Louis University School of Medicine	(1919)	1
Columbia University	(1914) (1918) (1920 3) (1921 6)	11
Cornell University	(1918) (1920) (1921)	3
Fordham University	(1920) (1921 8)	9
Long Island College Hospital	(1921)	2
New York Homeopathic Medical College and Flower Hospital	(1917) (1921 2)	3
Syracuse University	(1921)	1
University and Bellevue Hospital Medical College	(1921 3)	3
University of Buffalo	(1921)	2
Eclectic Medical College Cincinnati	(1915)	1
Jefferson Medical College	(1918 2) (1920), (1921 3)	6
University of Pennsylvania	(1913) (1920 4) (1921 2)	7
Vanderbilt University	(1918) (1919 2)	3
Baylor University	(1921)	2
University of Texas	(1916) (1920)	2
University of Vermont	(1916) (1921 3)	4
University of Virginia	(1921)	1
McGill University	(1907) (1916 2)	3
Queen's University	(1914) (1916) (1918) (1920 2)	5
University of Toronto	(1919) (1921)	2
University of Graz	(1920)*	1
University of Vienna	(1906),* (1916),* (1917) * (1918)*	4
University of Budapest	(1911) * (1918)*	2
University of Lyons	(1919)*	1
University of Rome	(1916)	1
University of Berne	(1916) * (1917)*	2
University of Lausanne	(1920)*	1

FAILED		
Yale University	(1895)	1
Georgetown University	(1917)	1
Howard University	(1920)	1
Hahnemann Medical College and Hospital of Chicago	(1915)	1
Tulane University	(1913)	1
Tufts College Medical School	(1921)	1
Fordham University	(1921)	1
New York Homeopathic Medical College and Flower Hospital (1915)	(1921)	2
University of Buffalo	(1920)	1
Eclectic Medical College	(1921)	1
Hahnemann Med Coll and Hosp of Philadelphia	(1921)	1
Jefferson Medical College	(1912)	1
McGill University	(1918)	1
University of Toronto	(1920)	1
Bohemian University of Prague	(1920)*	1
University of Budapest (1912) * (1914) *	(1916)*	3
University of Naples	(1907)*	1
University of Palermo	(1894)	1
University of Bogota (1918) *	(1919)*	2
University of Geneva	(1914)*	1
University of Lausanne	(1919)*	1

Mr Hamilton also reports that from Jan 6 to April 14, 1922 twenty-eight candidates were licensed by endorsement of credentials Ten candidates licenses were issued on recommendation of the Board of Regents One candidate was licensed on diploma The following colleges were represented

ENDORSEMENT OF CREDENTIALS College	Year Grad	Endorsement with
Yale University	(1908)†	Connecticut
Columbian University	(1897)†	Dist Colum
Atlanta Medical College	(1916)†	Alabama
Bennett Medical College	(1909)	Illinois
Northwestern University (1920 2)		Illinois
Rush Med Coll (1903) California (1911) † 1914)	(1920)	Illinois
Indiana University	(1920)	Indiana
Tulane University	(1913)†	Georgia
Bowdoin Medical School (1911) Rhode Island	(1913)	Mass.
Baltimore Medical College	(1898)	Mass
College of Physicians and Surgeons Baltimore	(1912)	Connecticut
Johns Hopkins University	(1920)	Virginia
University of Maryland	(1905)	Virginia
Harvard University (1906) (1906)† Mass	(1914)†	R Island
University of Michigan Medical School	(1910)	Michigan
University of Minnesota	(1905)	Minnesota
St Louis College of Physicians and Surgeons	(1897)†	Missouri
University of Missouri	(1908)	Missouri
Starling Ohio Medical College	(1909)	Ohio
Eclectic Medical College Cincinnati	(1920)	Ohio
Dartmouth Medical College	(1902)†	Mass
Jefferson Medical College	(1906)	New Jersey
University of Pittsburgh	(1909)	Penna.
Medical College of Virginia	(1914)	Virginia
University College of Medicine Richmond	(1905)	Virginia
University of Virginia	(1917)	Virginia
McGill University (1910)† Maine	(1915)	California
University of London	(1919)	Delaware
University of Halle	(1881)* †	Germany
University of Jassy	(1904)*	Michigan

LICENSED ON DIPLOMA College	Year Grad	Number Licensed
New York Homeopathic Medical College and Flower Hospital	(1876)	1

* Graduation not verified

† These candidates licenses were issued on recommendation of the Board of Regents

Idaho April Examination

Mr Paul Davis, director, Idaho Department of Law Enforcement, reports the written examination held at Boise, April 4, 1922 The examination covered 11 subjects and included 110 questions An average of 75 per cent was required to pass Five candidates were examined, all of whom passed Seven candidates were licensed by reciprocity The following colleges were represented

PASSED College	Year Grad	Per Cent
George Washington University	(1909)	77
Loyola University (1917) 80	(1919)	78 5
Rush Medical College	(1902)	79
University of Maryland	(1921)	84

LICENSED BY RECIPROCITY College	Year Grad	Reciprocity with
Rush Medical College (1915) Utah (1917) Illinois	(1919)	Montana
University of Michigan Medical School	(1911)	Montana
Barnes Medical College	(1904)	Oregon
St Louis University School of Medicine	(1908)	Montana
Western Reserve University	(1918)	Utah

Miscellany

LAY COMMENT ON ALCOHOL RESOLUTION

The resolution on the alcohol question adopted by the House of Delegates of the American Medical Association at the recent annual session in St Louis was widely commented on by the lay press The New York *World* says that the vote of the House of Delegates is interesting as an exhibit of professional opinion, but points out that "Congress is its own medical authority, just as it is its own economic and financial authority It has ordered, in effect, that whisky is not necessary in medical practice and, having rejected the testimony of the doctors as incompetent, it is immaterial how large a percentage of practicing physicians regard the use of whisky as beneficial" Heading its editorial sarcastically, "A Petition to Old Dr Congress," the *World* suggests that the American Medical Association would have more hope of securing relief from the Volstead regulation if it based its plea on practical politics instead of on scientific therapeutics

The Brooklyn *Eagle* points out that it is axiomatic that humanity suffers unless physicians secure freedom in alcoholic prescriptions and pure liquor for their patients, and the Brooklyn *Citizen* affirms that the action taken indicates that "the influence of the medical profession may now safely be said to be decisively arrayed on the side of a liberal modification of the Volstead Act"

The Paterson N Y, *Chronicle* believes that the questionnaire conducted by THE JOURNAL indicating that physicians in the cities believe that alcohol has therapeutic value, whereas those in the rural districts deny its value, "would seem to indicate that medicine is not yet a sufficiently exact science to be altogether independent of politics

The Trenton, N J, *Times* is strongly in favor of the resolution as passed 'Such a reasonable request' it says, "should be granted Patients who obtain whisky on prescriptions pay dearly for it and there should be no question as to its quality, nor of the quantity delivered"

The Philadelphia *Bulletin* after stating the case, believes that as long as the federal law recognizes the medicinal use of alcoholic liquors "there should be some law or body under the government competent to guarantee that the medicinal liquor shall be pure—at least, that it shall not be poisonous

Conscienceless profiteering puts the price of alcoholic stimulant beyond the reach of many a patient for whom it is prescribed More utter lack of conscience on the part of those in the trade makes it impossible to get good, or even safe, liquor at any price There is a risk that ought not to be tolerated in the supply of any preparation that may be used as a medicine. These dangerous conditions must be remedied, and if there shall be no other adequate means offered, the suggestion of government control of the medicinal supply may make a strong bid for popular favor

The Philadelphia *Inquirer* also is strongly in favor of the resolution "This is a perfectly feasible plan it says, and it might well be adopted Nothing could well be worse than the present situation It is clear that the prohibition officials have muddled it inexcusably The law as it stands presumes to limit the quantity of liquor a physician may prescribe in a given case thus often giving him a choice between breaking the law and letting the patient die This is bad enough, but to leave him without the assurance that the liquor he is allowed to prescribe is not rank poison is worse The government will not be blameless in this matter if it refuses to act , and The Erie, Pa *Times* supports the attitude of the *Inquirer* and requotes its views

The Chicago *Tribune*, heading its editorial, 'Physicians are not Bootleggers," supports the action of the House of Delegates vigorously, saying in part 'If an honest doctor prescribes whisky for a patient it is because he thinks the patient needs it If so, he is entitled to decide how much the patient needs and not to be told by the law that the requirement is not more than a pint every ten days Physicians differ as to the value of alcohol as medicine. They differ in many particulars of practice The community licenses them to practice medicine after a determination of their qualifications The community does not tell them how they shall write prescriptions If a physician dishonestly writes whisky prescriptions he is in that operation a bootlegger, and is an element against the enforcement of prohibition just as any other bootlegger or rum runner is The direct sale of liquor by government agencies on physicians' prescriptions is theoretically good How it would work we do not know The government has not kept its prohibition activities free from fraud and dishonesty by a long shot'

The Peoria, Ill, *Transcript* believes that "the principle is sound and if put into practice would afford grateful relief from the present system of crisscross bootlegging, fake medical prescriptions and blackmail Neither the reputable physician nor the reputable druggist has any desire to handle whisky under present conditions Prescribing "whisky" is a plunge in the dark Nobody knows what it is Good whisky in bond is widely scattered, and the government is being robbed of revenue and respect by fake raids, burglaries and 'gagged watchmen' Such sentimental objections as might be urged against making Uncle Sam a bartender would be easily overcome by the practical benefits of direct distribution

For many years, Uncle Sam reaped an enormous revenue from spirits and none was heard to complain If he can restrict the traffic in poisonous concoctions by donning an apron and tending bar, he will please large areas of America which are weary of law violations, covin, trickery and hypocrisy The resolution of the American Medical Association is in the form of an appeal to Congress and the Secretary of the Treasury It is worthy of serious consideration Under the eighteenth amendment, there is no ban on intoxicating liquors used for other than beverage purposes

'Reputable physicians and druggists desire to comply with the law without the hazard of being set down as bootleggers or sneaks If the government sells whisky, it will be known to whom it is sold Responsibility will be centralized, and people entitled to liquor will get a pure article at a fair price

The concentration of all bonded liquors in reserve districts under adequate guard and government distribution would not solve the whole liquor question, but it would obviate fake robberies and stiffen respect for the law The law needs respect more than the booze-fighter needs whisky"

The St Joseph, Mo, *Gazette* and the Moberly, Mo, *Democrat* strongly endorse the action of the Association both on prohibition and on the Sheppard-Towner Maternity Act

The American Medical Association," they say," at its meeting in St Louis seems to be in favor of the Canada plan of handling spirits A resolution favoring the handling of all whisky by the government and its distribution to physicians for medical purposes was adopted by the Association The Association also took a shot at the maternity law now being urged by a lot of old maids These two resolutions are remarkable when we consider the fact that the medical profession is closer in touch and ought to know more about both matters than any other class of men in the entire country Is it possible that the day of propaganda is riding to a fall, and sanity and common sense are again to rule? No body of men can do more than the medical profession to steady the tide of legislation and eliminate hysteria therefrom. It is evident however, that there was no politics in the national Association and the members voted their honest conviction on questions coming before the Association"

The St Louis *Star* is pleased to observe that the first move of the American Medical Association at the St Louis session was to clear away the difficulties imposed upon the medical profession by the liquor prescription business "Poor liquor furnished by druggists,' says the *Star* 'on genuine medical prescriptions is one difficulty, good liquor furnished on the prescriptions of bootlegging physicians is another Of the two the latter is more harmful both to the public and to the medical profession. Government control of liquor sales to druggists would throw a safeguard around the medical profession, on both of these points, provided the physi-

cians will agree to a drastic limitation upon the number of prescriptions that may be written, and will unite to eliminate the indiscriminate prescribers of both liquor and narcotic drugs" .

The Modesto, Calif, *News* believes that "the government control over the medicinal liquor business would prevent evasions or pretense"

Book Notices

THE PLACE OF VERSION IN OBSTETRICS By Irving W Potter M D F A C S Obstetrician in Chief Deaconess Hospital and St Mary s Maternity Hospital Cloth Price $5 Pp 138 with 42 illustrations St Louis C V Mosby Company 1922

The two parts of this book comprise, first, an incomplete historical sketch of version, and second, an exposition of the writer's method of practice, which he has evolved from the descript ons of many dead masters of the subject, and which he has named, "Potter s Version" The historical data are essentially—though not always—accurate, and there is an evident absence of actual reference to the authorities, who are responsible for steps included in the author s method, leading to the implication that he, de novo, had originated every detail

Furthermore, the history of the method seems to be utilized as a defense for its promiscuous use The stretching of the perineum is not new Karl Braun appreciated the necessity of overcoming the resistance of the tense perineum Clifton Edgar amplified it, and most teachers of obstetrics have, for ten or fifteen years taught the necessity of ironing out the perineum as a preliminary to version or to any extraction Guillemeau, the student of Pare, always used the right hand, being dextral, the author, being left-handed invariably uses the left hand Therefore, necessity demanded that the writer should be different It is so evident that it is appropriate to select the hand which would most conveniently reach the feet, depending on the position of the fetus, that Pare himself practiced it, and the choice of hand has been dictated by this fact ever since The illustrations (Figs 36, 38 and 39) clearly show the awkwardness of the technic when one hand is invariably employed The author advises that the hand shall be insinuated between the membranes and the uterus until the feet are reached this procedure was first suggested in 1694 by Peu, was advised by Smellie, and was modified by Huter in the middle period of the last century While the objections to this method of entering the uterus were distinctly valid in preantiseptic days, there is even now more than theoretical objection Levret's insistence that the membranes should be ruptured at the os is still sustained The author brings down both legs, according to the real originator of version, Pare, who first brought down one leg, and then the other

Mme du Tertre, in 1677, clearly saw the advantages of bringing down only one leg and was the first to recommend that such be the course in a version a complete breech is a better dilator than a footling and much more so than a double footling A double footling reduces the dilating volume of the breech fully one fourth Up to the time of J L Baudelocque, more than a hundred years ago, either the arms were not brought down at all, as advised by Deventer, or the anterior or posterior arm was disposed of as the exigencies of the case warranted Baudelocque showed that usually the posterior arm more readily could be brought down first For some years the Harvard School has advocated the primary delivery of the anterior arm Here, again, the author has not originated a step

The text following the three chapters on the history of obstetrics is essentially a reprint of an article appearing in a medical journal a year ago Certain data are added, including twenty-three illustrations, some of which are not anatomically correct Figure 15 is such a manifest error of art that one wonder why it is included The technic, as has been said, offers nothing that is new, yet on page 112 is this sentence "This merely serves to emphasize the fact that the operation must at all times be done only *in properly selected cases*' (the author's italics) One wonder where the selection is employed, on reading that in the last 2,243 cases in the author's practice, version was done 1,858 times Moreover, in the total number of women, cesarean sections were done 180 times—1 in 12 4 patients Indications are not definitely stated—or, better, the indications mentioned were discovered in the course of the version, and therefore were not indications in the usual conception of the term Indications must be lacking, fundamentally they must be absent when an operator indiscriminately selects two operations which conserve his time—and gives the woman small chance to prove her inherent obstetric prowess The obtruding thought suggested in the foreword leads to the belief that the author's indications are specious, including possibly conservation of self in a task too arduous for one man "Therefore, any advance in the practice of obstetrics which will conserve the strength and well being of the attendant and shorten the amount of time necessary for the completion of a given task, provided that safety and efficiency are in no way lessened or sacrificed," he says, 'is worthy of consideration even upon this ground alone" Nothing concrete is presented, but the inference is that the author never breaks a bone or organically injures the child, though in the original article he states that he never broke a bone, and in another place that he never looks for such injuries, as they do not occur 'Seek, and ye shall find' saveth the prophet This is especially worthy in view of Runge's findings that in more than 90 per cent of babies dying after breech extraction (twice as frequent in secondary as primary breech cases) there are gross lesions which caused the deaths

A small book like this primarily a reprint of journal papers deserves small recognition, but the teachings inculcated are so extreme that it is highly important that comment be made The word that artificial delivery by version, and cesarean sections done in 8 per cent of women, is safer than normal labor is entirely foreign to fact The teaching, as given in this book, is dangerous and reprehensible, a rational sane, obstetric thought is imperatively needed if conservation of mother and child are to be realized

ÉTUDE SUR LE TRAITEMENT DE LA TUBERCULOSE PULMONAIRE Par le Docteur C M Desvernine Docteur en Medecine des Facultés de Paris de New York et de Madrid Paper Price 5 francs Pp 78 Paris L Expansion Scientifique Française '

The pages of this work are devoted, when not otherwise occupied by the rather numerous quotations, to a report on an experiment and on a clinical study In the experiment mentioned, a donkey was confined in a pneumatic chamber for a period of seven months The air pressure maintained in the chamber corresponded to that of 6 000 feet altitude At the end of the seven months a study of the blood elements was made, a comparison of the findings with those of the animal's blood before the experiment was begun disclosed a large increase in the number of erythrocytes, leukocytes and hemoglobin a result in line with the reports of other observers The material of the clinical study consists of a number of cases treated by an emulsion of sputum The results were not particularly noteworthy, and offer nothing new

CHIRURGISCHE OPERATIONSLEHRE FÜR STUDIERENDE UND ARZTE Von Prof Dr Friedrich Pels Leusden ord Prof der Chirurgie und Direktor der Chirurgischen Universitätsklinik und Poliklinik zu Griefswald Geh Med Rat Third edition Paper Price 200 marks Pp 800 with 778 illustrations Berlin Urban & Schwarzenberg 1921

The compilation of a work on operative surgery is a difficult and commonly an unsatisfactory task chiefly because operative technic cannot successfully be taught from a book This work is open to the criticism of being unnecessarily voluminous and of containing much obsolete material The illustrations are mostly pen and ink drawings of poor quality, and the majority fall short of the purpose for which they were intended The book could serve the single function of a catalogue of surgical procedures To the inexperienced it would be of some help, a well-trained surgeon could find little in it to interest him

Medicolegal

Ignorance No Defense Under Narcotic Law—Purpose of the Law

(United States v Balint et al (U S) 42 Sup Ct R 301)

The Supreme Court of the United States, in reversing a judgment that sustained a demurrer to the indictment in this case, says that the indictment charged the defendants with unlawfully selling to another a certain amount of a derivative of opium and a certain amount of a derivative of coca leaves, not in pursuance of any written order on a form issued in blank for that purpose by the commissioner of internal revenue, contrary to the provisions of Section 2 of the act The defendants demurred to the indictment on the ground that it failed to charge that they had sold the inhibited drugs knowing them to be such But the statute does not make such knowledge an element of the offense, and this court has held that, in the prohibition or punishment of particular acts, the state may, in the maintenance of a public policy, provide that he who commits these acts shall do so at his peril and will not be heard to plead in defense good faith or ignorance Many instances of this are to be found in regularity measures in the exercise of what is called the police power, in which the emphasis of the statute is evidently on achievement of some social betterment rather than the punishment of the crimes Again, when one deals with others and his mere negligence may be dangerous to them as in selling diseased food or poison, the policy of the law may, in order to stimulate proper care, require the punishment of the negligent person, though he is ignorant of the noxious character of what he sells

It is evident from a reading of Section 2 that its emphasis is in securing a close supervision of the business of dealing in these dangerous drugs by the taxing officers of the government, and that it merely uses a criminal penalty to secure recorded evidence of the disposition of such drugs, as a means of taxing and restraining the traffic Its manifest purpose is to require every person dealing in drugs to ascertain at his peril whether that which he sells comes within the inhibition of the statute, and if he sells the inhibited drug in ignorance of its character, to penalize him Congress weighed the possible injustice of subjecting an innocent seller to a penalty against the evil of exposing innocent purchasers to danger from the drug, and concluded that the latter was the result preferably to be avoided Doubtless, considerations as to the opportunity of the seller to find out the fact and the difficulty of proof of knowledge contributed to this conclusion

Time of Origination of Disease Under Insurance

(Cohen v North American Life & Casualty Co (Minn) 185 N W R 939)

The Supreme Court of Minnesota, in affirming an order denying the defendant a new trial after the plaintiff obtained a verdict on a policy of insurance says that the policy promised indemnity for a disability coming solely as the result of disease which shall originate and begin after this policy shall have been in continuous force for 30 days" The policy was issued on November 15 December 19, the insured became ill and called a physician December 25 he went to a hospital, and, December 28 an operation was performed One of the surgeons who assisted at the operation gave the cause as postoperative adhesions, and said that the insured was also afflicted with cholecystitis Recovery was made Six years before, the insured had had an operation for appendicitis Thereafter he was well Until his attack of December 19, he had not been sick There was medical testimony that would justify, if not require, a finding that the trouble came at least in part from postoperative adhesions existing prior to the policy

The rule of construction was the usual one It must be favorable to the insured The insurer intended to give and the insured expected to get indemnity if illness or sickness came after the policy had been in force for 30 days They were not concerned with the latent or remote cause of it The cause of the disease insured against was not mentioned in the policy as a condition of liability The time when the disease should 'originate and begin" was made important The parties had in mind, as the subject of indemnity, disability from illness or sickness or disease first manifesting itself or becoming active after the 30-day period For this the policy promised indemnity It did not exempt the company from liability because the medical cause of the disease causing disability antedated the expiration of the period A construction making the time of the medical cause of the outbreak of the disease determinative of liability, irrespective of actual illness sickness or disease, as commonly understood, would make health insurance subject to uncertainty, unattractive to those wanting reasonable health insurance protection, and less marketable The policy issued by the defendant was fair to the insurer and the insured As the court construes it, the defendant was liable, though the medical cause of the disease existed prior to the policy, if the disease or sickness did not manifest itself until afterward So the ordinary man wanting health protection would understand it In other words, the court holds that a policy of health insurance giving indemnity for disability resulting from a "disease which shall originate and begin after this policy shall have been in continuous force for 30 days covers a disease first manifesting itself after such time, although the medical cause antedated it

Suing Physician and Employer and Releasing Latter

(Stachlin v Hochdoerfer (Mo) 235 S W R 1060)

The Supreme Court of Missouri, Division No 1, says that the plaintiff while in the employ of a manufacturing company, suffered a fall in which his right leg was broken near the ankle, the flesh being mangled and crushed, after which blood poisoning set in, and the leg had to be amputated He thereafter sued the defendant for alleged malpractice in the treatment of the leg On the same day, he sued the manufacturing company for damages for the personal injuries which he sustained, including the loss of the limb About four months later, he instituted a second suit against the company, in which he sought a recovery on account, among other things, of the alleged unskilful and careless acts and omissions of the company and the surgeons selected by it in the treatment of the injured leg Subsequently, for a recited consideration of $1,300, he released the company from all claims growing out of or in any wise connected with his injury His first suit against the company was dismissed On the same day his second suit against the company was dismissed on the execution by him of a paper which stated that, in consideration of $50 paid to him, he released the company from, among other things, any claim growing out of any treatment which the company caused, or failed to cause, to be rendered to him, reserving the right to proceed against the physicians to recover any amount which he may have suffered from their negligence in attending him

At the beginning of the trial against the defendant physician the plaintiff admitted the execution of the two papers on which his two suits against the manufacturing company had been disposed of, and the defendant offered in evidence the two papers and the petitions in the suits to which they respectively referred Thereupon at the request of the defendant the trial court directed a verdict in his favor, the court announcing that it did so because the plaintiff had accepted a sum of money from the manufacturing company in full satisfaction of all injuries resulting from the accident, including the loss of his leg But the judgment rendered on the verdict in the defendant's favor is reversed by the supreme court which goes on to say that, if the trial court's construction was the proper one, no fault could be found with its conclusion that the plaintiff was not entitled to receive compensation again for the same injury But while under the allegations severally of the petitions, in the first suit against the company and that against the defendant physician, the company and the physician was each liable to the

plaintiff for the loss of his leg, they were not joint wrongdoers, they were acting independently of each other their several wrongs were committed at different times, and the wrongful act of each, being several when committed did not become joint because its consequences united with the consequences of the other Each was liable, therefore, only to the extent of the injury done by himself Still, the receipt of full satisfaction from either for the injury for which both were liable would bar the plaintiff from recovering from the other for the same injury

The two papers executed by the plaintiff when read together, clearly indicated that he and the manufacturing company considered and treated the suit first filed against the company as one for the original injury only and the second suit as one for the loss of the leg The second suit against the company was based on the theory that the physicians who treated the plaintiff's broken leg were its agents or employees, for whose negligence or unskilfulness it was liable Under this view the company and its physicians, so far as there was negligence in that respect, were joint wrongdoers, and an acknowledgment of satisfaction from one for the injury inflicted by them both would release the other But a reading of the paper disposing of that suit made it manifest that it was a covenant not to sue, and nothing more In other words the supreme court holds that the papers executed by the plaintiff when properly construed, operated as an acknowledgment of satisfaction for the original injury and a covenant not to sue the manufacturing company for the loss of the leg Therefore, the judgment for the defendant physician should be reversed, and the cause remanded

Quarantining of Place and Tearing Down of Placard

(Ex parte Cul er (Calif) 202 Pac R 661)

The Supreme Court of California, in discharging a writ of habeas corpus and remanding to custody the petitioner for the writ, says that she had been convicted of the commission of a misdemeanor, and fined with the alternative of imprisonment for tearing down a "diphtheria contract" placard which had been affixed to her premises declaring them to be in a state of quarantine The complaint against her alleged that the state board of health had issued an order directing the quarantine of the petitioner's niece, who was a minor child residing at the petitioner's home, for the reason that the child had come in contact with diphtheria patients and carriers of the disease, the affixing of the placard to the premises, by a police officer, and the removal of the placard from the premises in the presence of the officer If the tearing down of the placard under the circumstances alleged constituted a misdemeanor under any statute of the state, the complaint must be held to charge the commission of a public offense And if the quarantining of these premises was a proper act in pursuance of the order received from the state board of health, then the petitioner's act in tearing down the placard was punishable as a misdemeanor under the Public Health Act

There can be no doubt that by virtue of the broad power conferred by Sections 2979 and 2979a of the Political Code of California and by the Public Health Act, the state board of health has power to order the quarantine of persons who have come in contact with patients suffering from, and with carriers of, contagious diseases, whenever in the judgment of the board such action shall be deemed necessary to protect and preserve the public health But the petitioner pointed out the distinction between quarantining a place and quarantining a person, and there may be cases in which buildings are quarantined, as distinguished from persons For instance, when smallpox patients have been removed from a building to a pesthouse, the building itself should be quarantined until disinfected, but this does not alter the fact that the ordinary method of quarantining persons is by confining them to their residences and by giving notice to the people outside and inside that there is to be no going out nor coming in Moreover, it is perfectly apparent, from a consideration of the quarantine rules incorporated in the Public Health Act that this statute recognizes that the method of quarantining a person is to quarantine the place in which he lives Otherwise, the quarantine is spoken of as an arrest of the person

Section 2979 of the Political Code provides that the state board of health may establish and maintain places of quarantine or isolation, but how can it be seriously contended that a mere order directing that a person be quarantined is intended to mean that that person shall be arrested and placed in such an isolation hospital, rather than quarantined by being confined to his residence? Of course, taking possession of the person in the exercise of the powers of the state over health matters would be a method of quarantine, but obviously that cannot be said to be the only method of quarantining a person, when the statute clearly indicates that when a place is quarantined the people therein are confined thereto and cannot leave For instance, in the case at bar, if the state board of health had ordered the quarantining of the place of residence of the petitioner, it would thereby have subjected the proceedings to the very absurdity which the petitioner contended for, namely that the place was quarantined and the person was not The order of the state board of health to quarantine the person of the petitioner's niece meant that she must be confined to a given place and kept out of the community This was obviously accomplished by putting the appropriate notice on the house which she occupied, as required by statute

An Adequate Remedy at Law Without Injunction

(People Uni ersal Chiropractors Ass n et al (Ill) 134 N E R 4)

The Supreme Court of Illinois, in affirming a decree dissolving a temporary injunction and dismissing the bill, holds that there was an adequate remedy at law The court says that fifty-two defendants were named all of whom, it was alleged were chiropractors treating human ailments without a license, and belonging to what was known as the Universal Chiropractors Association, that some of them had been convicted of treating human ailments without a license, and sentenced to pay fines or to imprisonment, but, after paying their fines or serving their terms of imprisonment, had returned to and continued their practice, that the association collected dues from which fines and costs assessed against members were paid, that, by reason of a conspiracy of defendants to defy the laws and continue their unlawful practice of treating human ailments without a license which is prohibited by law and is a business subversive of the public health and morals the defendants had brought about a condition, throughout the state, of disrespect and contempt for law, and threatened to, and would, continue in such conduct unless enjoined The theory of the bill was that the conduct of the defendants amounted to a nuisance which a court of equity would enjoin, that the defendants were maintaining an organization for the aid of those belonging to it who were violating the law, and proposed to continue such violation Since the bill was filed, the case of People v Love, 298 Ill 304, 131 N E 809, has been decided by this court, and provisions of the Medicine and Surgery Act of 1917 relative to the qualifications and licensing of chiropractors have been held invalid But, even if the entire act of 1917 was rendered invalid by that decision, and the act of 1899 is still in force, all the bill alleged the defendants proposed to do was to continue to practice without a license which would be a misdemeanor for which punishment is provided and an adequate remedy at law exists The possibility that many persons will violate the law and many suits will be required to enforce it does not warrant relief by injunction The jurisdiction of a court of equity to issue an injunction in some cases to prevent a multiplicity of suits is not determined by the number of suits Multiplicity is not synonymous with multitude, and there must be some other ground of jurisdiction besides mere number The circumstances must be such that the remedy at law will be regarded as inadequate If the defendants, or any of them, are arrested and charged with committing a criminal offense they have a constitutional right to a trial by jury in determining their guilt, and to sustain the injunction here sought would deny them that right

Society Proceedings

COMING MEETINGS

Colorado Congress of Ophthalmology and Oto-Laryngology Denver, July 28 29 Drs. M D Brown and J M Shields Metropolitan Bldg, Denver, Secretary

Idaho State Medical Association Wallace July 10 11 Dr E E Laubaugh Overland Bldg Boise Secretary

Montana, Medical Association of, Great Falls, July 12 13 Dr E G Balsam, 222 Hart Albin Bldg, Billings Secretary

ASSOCIATION OF AMERICAN PHYSICIANS

Thirty-Seventh Annual Meeting held in Washington D C May 2-4 1922

(Concluded from page 1990)

Roentgen-Ray Treatment of Toxic Goiter

DRS J H MEANS and G W HOLMES, Boston Of forty-four cases of exophthalmic goiter, definite improvement was secured by roentgenotherapy in twenty-eight Sixteen showed little or no improvement, eight of these patients later came to operation and were apparently cured Of the twenty-eight in which there was improvement, there were thirteen who were apparently cured, and fifteen who were improved but not rendered entirely free from hyperthyroidism No patients seemed to be made worse by the treatment Two patients improved but not cured were operated on later One of these died after operation Of the twelve toxic adenoma cases treated by roentgen rays, all showed improvement and five patients were apparently cured Two of the exophthalmic and one of the toxic adenoma cases developed myxedema during roentgen-ray treatment, which was promptly relieved by thyroid administration, and in the two exophthalmic patients the depression was only temporary, as thyroid was later discontinued without a return of myxedema In those cases of exophthalmic goiter which respond to roentgen rays there is a rapid fall in pulse (average from 115 to 89) and in basal metabolism (average from + 55 to + 21 per cent), and a corresponding gain in weight (average of 9 per cent) in the first four months of treatment, during which time they receive on an average five treatments In some cases the curves come to a normal level, in others they do not In the latter further roentgen-ray treatment is not strikingly satisfactory except in the cases which show a definite relapse, in these a second course of treatment may act as did the first We have as yet found no method of predicting which cases will respond to roentgen rays The results in toxic adenoma are similar to those in exophthalmic goiter In general, we feel that roentgen rays may cure certain cases, that it may improve others, that for this reason it has its place in the treatment of toxic goiter If it does not secure good results in a few months, surgery should be employed Some patients who are not cured by roentgen rays are rendered better operative risks A combination of roentgen rays and surgery will sometimes accomplish more good than either form of treatment alone To make a proper use of the roentgen rays in the management of toxic goiter, its limitations must be recognized and, when necessary, it should be combined intelligently with surgical procedures

Irradiation Treatment of Leukemia

DR FRANCIS CARTER WOOD New York The study of the results of irradiation of patients with leukemia has shown that myelogenous cases yielded easily and rapidly to either radium or the roentgen ray, and some lymphatic cases responded well This is contrary to experience recorded in the literature Patients with good red cell counts did better than anemic persons Children did badly, tended to develop hemorrhagic conditions, and died early, even though the spleen, nodules and lymph cell count were brought down In some adult cases the blood picture was brought to approximately normal by irradiation, but the case progressed rapidly to a fatal ending No relation was found between the blood count of the patient when first seen and the course of the disease Some myelogenous patients showed white cells from 500,000 to 700,000 per cubic millimeter, yet with irradiation remained alive and in working condition for three or four years Transfusions from young, robust adults are often helpful There is no difference between the effects of radium and the roentgen ray, as at present used A high voltage roentgen ray is now used In the early stages of myelogenous leukemia, irradiation is confined to the spleen, but in advanced stages life is sometimes prolonged by irradiation of the spleen, long bones, vertebral column and ribs The terminal stages of the disease are marked by hemorrhagic conditions in the viscera, and sometimes intradurally Often death follows extraction of teeth with accompanying hemorrhage

Treatment of Tonsils by Radiation from Radium Salts

DR FRANCIS H WILLIAMS, Boston Radium irradiations have a selective action on lymphoid tissue, of which the tonsils are largely made up Fifty milligrams of pure radium bromid was applied in a suitable container, directly first to one tonsil, then the other, for from ten to twenty minutes to each tonsil, according to the filter used, and the condition of the tonsil and of the patient The method of carrying out the treatment is based on measurements, made with a fluorometer The method has a remarkable degree of safety, if properly carried out, as the action of the remedy is largely exerted only where it is needed Therefore, this remedy can be used without causing any harmful effects, either immediately or remotely No patient was required to modify his usual diet or lose time from work

DISCUSSION ON PAPERS OF DRS MEANS AND HOLMES, WOOD AND WILLIAMS

DR THOMAS MCCRAE, Philadelphia I wish to ask Dr Means his opinion as to operation on the thyroid gland which has received roentgen-ray treatment Some surgeons are very emphatic in stating that operation after irradiation is sometimes very difficult If this is true, it is very important for us to decide which patients are likely to be helped by the roentgen rays and which ones should be operated on without irradiation The communication of Dr Williams is a very important one We are apt to think of the tonsil removal as a minor operation, but the total number of accidents is large, although small relatively to the number of patients operated on The number of cases of pulmonary abscess following tonsillectomy is surprisingly large If we have treatment which obviates the need of operation, it is certainly a great advantage

DR. H S PLUMMER Rochester, Minn About twenty years ago I saw cases treated by the roentgen ray and was enthusiastic about the results After a while I lost my early enthusiasm, and ever since then I have been trying to interpret the results of treatment of these cases Dr Means has presented some work which points to the fact that the roentgen ray is of benefit in these cases He has the same trouble I had—he has no controls for his results Would the case not have run the same course if he had never used the roentgen ray? Let us see what happens in exophthalmic goiter These cases follow a definitely normal course I recorded in months the length of time from the onset of the trouble to the time the patient came under observation I divided the year into periods of three months first second, third and fourth three-month period Sixty-two per cent. of the patients came under observation within the first period in the next period 1 per cent came under observation, 20 per cent at the fifth month and 1 per cent in the last period There is only one interpretation People with exophthalmic goiter are going to have a pronounced curve for the better, and they come under observation about that time The course of exophthalmic goiter up to the end of the first twelve months is up then down If one gives them cold water at this stage one will get the first shot down Whatever is given will get results No man knows the normal average course for exophthalmic goiter

DR FRANK BILLINGS, Chicago Many years ago I had a large experience in the treatment of leukemia with the roentgen ray My study showed among other things that applied to any local cutaneous surface, it produced a leukolytic sub-

stance in the blood The serum of the treated patient dissolved the white blood cells in vitro, while the serum of an untreated patient had no such effect The resolution of the spleen occurred more rapidly when the rays were applied to the skin over the spleen I found that a combination of roentgen ray and benzene was of greater effect than either one alone Approximately 100 patients with acute and chronic leukemia were treated between 1905 and 1914 There is no doubt that the life of many of these patients was prolonged by the treatment, but the final end-result was death For twelve years the clinic kept in touch with a laundress who suffered from chronic lymphoid leukemia She would not submit to roentgen-ray treatment, and the medication consisted of small doses of arsenic with iron Her health remained good enough to enable her to carry on her work This is an example of the long duration of this disease in some patients, and indicates that meddlesome treatment may do more harm than good

DR J H MEANS, Boston In answer to Dr McCrae's question, I should say that it depends on what surgeon you ask Drs Porter and Richardson say that in their experience previous irradiation does not make operation more difficult Dr Plummer's objection to our conclusions cannot be met directly In a sense he is perfectly justified in making it We cannot get data on untreated cases to serve as controls, because it is not legitimate to refuse treatment to patients with exophthalmic goiter for the mere purpose of studying the course of the disease The absolute proof of the effect of therapeutic agents will come only when the disease has been produced experimentally By clinical studies such as ours, then, we cannot expect proof positive, nevertheless, they are worth making They give evidence as to the beneficial effect of the roentgen ray, which is highly suggestive if not absolute proof Spontaneous recovery occurs in exophthalmic goiter but it would be very unlikely that two out of three cases should be started on roentgen-ray treatment at the precise moment they were starting a rapid spontaneous improvement It is possible, but distinctly improbable

DR F C WOOD, New York I have never secured leukotoxin We have worked on normal blood, giving thirty or forty erythema doses in the extremity employed and we never got destruction of the normal cells Leukotoxin cells are extremely sensitive, even if no roentgen ray is used, and it would be hard to demonstrate their production by the roentgen ray In laboratory experiments we did find lipase ferments brought out by exposure to the roentgen ray The roentgen raying of bones in some of our cases has not produced as rapid a fall as in the spleen We should irradiate a definite area where hyperplasia is going on I have not noted benefit in the long bones as much as in the spleen I have seen bad results from the use of benzene The leukocytes begin to fall, but the patients die One patient abandoned as moribund, with only 50,000 blood plates and hemorrhage from the mouth, uterus and skin and really on the ragged edge, was subjected to irradiation, and she recovered to the extent that she lived three years and did hard farm work She died later following the extraction of some teeth I have the impression that these people do better if they are given sodium cacodylate subcutaneously, but I cannot prove it We know that arsenic has an effect on the leukemias The course of the disease is variable I have two cases of myelogenous leukemia which have lasted seven and eight years, respectively A chronic lymphatic leukemia has lasted six years The roentgen ray improves patients in an extremely bad condition, and brings them back into active working life I do not know that we give them longer life than in the slower, more chronic cases of leukemia I have never had a case treated that lasted seven years

Aneurysm of the Hepatic Artery

DRS JULIUS FRIEDENWALD and KARL H TANNENBAUM, Baltimore Sixty-five cases of this exceedingly uncommon affection are recorded in the literature We had one case A man, aged 48, became aware of a slight jaundice eight weeks before admission, which gradually increased, there was no pain, nor was anything else abnormal noted with the exception of a marked pruritus, loss of appetite and weight. A carcinoma was suspected, and the patient was admitted to the hospital for operation He had several collapses preceded by violent abdominal pains, and finally died suddenly before an operation was undertaken At the necropsy, 3 or 4 liters (quarts) of blood was found in the abdominal cavity, and an aneurysm of the hepatic artery the size of a small orange was discovered

Characterization of Various Forms of Endocarditis

DR EMANUEL LIBMAN, New York The types of endocarditis are rheumatic, syphilitic, acute bacterial, subacute bacterial and indeterminate The last named group includes cases usually having a history of true rheumatic fever, and is characterized by having very peculiar lesions on the valves and by the absence of Aschoff bodies from the heart muscle The so-called cases of terminal endocarditis also belong in this group These involve the left side of the heart in the main, the mitral valve There are no characteristic lesions in the heart muscle The cause is unknown The cause of rheumatic fever has not yet been discovered The specific lesion is the Aschoff body, but this lesion is found in only about one third of the cases that are clinically recognized as belonging to this group The Aschoff body is a perivascular lesion In rheumatic fever, a secondary infection by anhemolytic streptococci is found in 20 per cent of the cases The groups called bacterial are so designated because they are due to known bacteria The cases with an acute course are due, in the main, to hemolytic streptococci, pneumococci, staphylococci, the gonococcus and other organisms The subacute group is due, in more than 95 per cent. of the cases to anhemolytic streptococci (so-called *Streptococcus viridans)* The remaining cases are nearly all caused by the influenza bacillus Other organisms especially the gonococcus, can produce a subacute picture, and on the other hand the organisms found in the subacute cases may, rarely, be the cause of an acute type of disease The portal of infection in the acute cases is usually an evident purulent focus, in subacute cases a focal infection or possibly the intestinal tract cultivates the disease The acute cases should be named according to the etiologic agent that is found Subacute cases are best termed subacute *Streptococcus anhemolyticus* and *Bacillus influenzae* endocarditis One could shorten the terms and talk of subacute streptococcus and influenzal endocarditis

Gonorrheal Endocarditis

DR W S THAYER Baltimore Three hundred and twenty-seven cases of acute endocarditis, which came to necropsy, were studied In 133 of these the lesion was determined bacteriologically In forty-three cases blood culture during life was positive, making a total of 176 Twenty-two of these or 11.3 per cent were gonococcal Age incidence was from 9 to 42 years The relation of the onset of endocarditis to the period of acute infection was not often clear Of the twenty-two cases in seven, or 31 per cent, there was arthritis The symptoms were those of grave septicemia fever chills sweats in irregular recurrence The blood showed rapidly increasing anemia and high leukocytosis The duration of the disease was from three weeks to eight months, the average being 9.7 weeks From a clinical study of the cases it would seem that gonococcal endocarditis has a malignancy between that of malignant streptococcus, staphylococcus and pneumococcus, on the one hand, and that of the slower viridans and influenzal infections on the other The anatomic lesions were in the form of large, yellow or white, crumbly vegetations, the left side of the heart being more frequently involved Right sided lesions, however, were more frequent than usually reported The aortic valve was most commonly affected The gonococcus infection usually involves healthy previously undiseased valves The disease is generally a progressive infection tending toward a fatal termination but milder cases may occur with progress to recovery The latter, however, are relatively rare.

Clinical Observations on Heart Block

DR PAUL D WHITE, Boston Intraventricular block is almost as frequently seen in a large medical clinic as is

auriculoventricular block, 4 per cent having been found in 3,219 cases observed at the Massachusetts General Hospital, as compared with 4.8 per cent. Complete auriculoventricular block showed one-fifth the frequency of unquestionable partial auriculoventricular block. Bundle branch block of high grade made up slightly less than one third of the total number of cases of intraventricular block. Sino-auricular block was rarely found, less than half as often as complete auriculoventricular heart block. Arteriosclerosis was apparently responsible for the majority of the cases of complete auriculoventricular block and of intraventricular block of all degrees, but especially of bundle branch type, in which it figured as the chief factor in more than 80 per cent. Syphilis was a probable factor in sixteen of 156 cases of auriculoventricular block, and in eleven of 130 cases of intraventricular block. Antisyphilitic treatment in a number of the cases followed has not abolished the block, although disappearance of heart block under treatment has been reported, and I have seen one such case. In the series of partial auriculoventricular block cases, digitalis seemed to be chiefly responsible in more than half, on a background of rheumatic heart disease more often than arteriosclerotic heart disease. Digitalis was also largely responsible for six of the eleven cases of "sino-auricular block." The characteristic flattening or inversion of the T wave of the electrocardiogram was here very helpful in analysis of digitalis effect. Less than one quarter of the cases of complete auriculoventricular block showed heart failure, either anginal or congestive, at the time of discovery, and also less than a quarter gave a history of Stokes-Adams attacks. The mortality from heart failure in the last seven and one-half years has been slightly higher in the group with intraventricular block than in the group with auriculoventricular block. Several of the patients with complete heart block were in fairly good condition some years after the discovery of the block, in fact, nine being in "good or in fair health" from one to seven years after the first electrocardiographic evidence of complete heart block. Four of the five patients surviving in fairly good health over five years after the discovery of the block were the four patients under 40 years of age. Heart failure was found more often in the patients with intraventricular block than in those with auriculoventricular block, *especially of the anginal type*. Angina pectoris was found about four times more often in intraventricular block than in auriculoventricular block. It appears from this study that intraventricular block is of greater significance than auriculoventricular block. For its detection, the electrocardiograph is essential.

Digitalis Effects in Cardiac Cases with Regular Rhythm

DR. HENRY A. CHRISTIAN, Boston: Mackenzie and others have so emphasized digitalis effects as occurring almost solely in cases with auricular fibrillation that there is a growing feeling that, unless the pulse is absolutely irregular and rapid, little is to be gained from digitalis therapy. My own view is that digitalis therapy, as a rule, has a striking effect on those changes in the patient which are brought about by cardiac insufficiency irrespective of whether the pulse is fast or slow, irregular or regular. In ninety-seven consecutive cardiac cases, forty had regular rhythm and fifty-seven auricular fibrillation. In those with regular rhythm there was a considerable digitalis effect obtained in 72.5 per cent. and in those with fibrillation in 75.4 per cent. There seemed to be little difference dependent on rhythm. A considerable digitalis effect was taken as a decrease of at least thirty beats a minute, a loss of 4 kg. (8⅘ pounds) in weight or a definite diuresis. In this group numerous patients with a slow cardiac rate showed excellent and some striking effects from digitalis therapy. Of those with slow rate some had a regular rhythm, while others were fibrillating. Loss of edema, as shown by drop in body weight and diuresis, are just as striking and fully as satisfactory results of digitalis therapy as decrease in heart rate, and both occur irrespective of the presence or absence of auricular fibrillation. In fact, loss of edema adds more to the patient's comfort than change in rate. This report demonstrates that striking improvement in symptoms and signs in cardiac patients occur irrespective of rhythm and rate, and consequently regular rhythm or slow rate is no reason for withholding digitalis from patients with cardiac insufficiency with the idea that digitalis therapy will cause little or no improvement.

Quinidin in Auricular Fibrillation

DR. T. STUART HART, New York: Of seventeen cases of auricular fibrillation treated with quinidin, fifteen were continuous fibrillation cases, two were cases of paroxysmal fibrillation. These were not selected cases. They were treated according to the ordinary hospital routine and were followed very closely by frequent electrocardiographic studies. The method of administering quinidin was the one usually employed. The patients were given two preliminary doses of 0.2 gm. each, twenty-four hours being allowed for evidence of susceptibility to develop. After this, 0.4 gm. was given three times a day. As soon as sinus rhythm had been reestablished, the drug was immediately discontinued. Of the fifteen cases of persistent fibrillation, five recovered to normal rhythm. In both paroxysmal cases sinus rhythm promptly followed the quinidin administration. In my experience, if quinidin was effective in producing sinus rhythm, this occurred within a few hours or, at least, not longer than sixty hours after beginning the drug. In reviewing the electrocardiographic curves, I have been impressed by the fact that those patients who in their control curves showed relatively large auricular waves were more likely to regain a normal rhythm. I have seen no dangerous results following the administration of quinidin. I gave quinidin only to those patients who had never received digitalis, or I withheld it for two or three weeks until I was sure that the heart was free from digitalis influences. The use of quinidin in combination with digitalis has been opposed on the ground that their pharmacologic activities are antagonistic. I have some electrocardiographic evidence which supports this view. Quinidin slows the auricle and increases the rate of the ventricle, while digitalis makes the auricle more rapid and slows the ventricle. These effects were observed in most of my cases. The clinical evidence of the antagonism of these two drugs is less evident.

Arsenical Treatment of Chronic Infectious Endocarditis

DR. JOSEPH A. CAPPS, Chicago: This group of cases is to be differentiated from rheumatic endocarditis and the acute ulcerative endocarditis. Eight cases with characteristic clinical symptoms showed positive blood cultures. All were given sodium cacodylate daily over a long period. Two patients died, four are well after intervals of from twenty-two months to eleven years, two are improved after an interval of three and six months, respectively. These results, along with certain experimental evidence, encourage the hope that the long continued use of arsenic has an inhibiting, if not a germicidal, influence on the causative organisms.

DISCUSSION ON PAPERS OF DRS. FRIEDENWALD AND TANNENBAUM, LIBMAN, THAYER, WHITE, CHRISTIAN, HART AND CAPPS

DR. JOSEPH L. MILLER, Chicago: It is difficult to determine just what should be included in this group known as subacute endocarditis. It should include, no doubt, cases which show very wide variations in intensity of symptoms—from the relatively low grade infections to a form which merges into acute septic endocarditis. There is one form of considerable interest: patients who enter the hospital with a history of an old endocardial lesion years previously and have gone along comfortably with good compensation, then without known cause their compensation is disturbed. They might pass as having a broken compensation due to an old lesion. Many will go for days without fever, and only at infrequent intervals have 99.2 or 99.6 F.—just enough to excite suspicion that an acute process may be present. I have followed several of these cases to necropsy and have been surprised to find a subacute form of endocarditis. In this group of cases the blood cultures are practically always negative. There is no enlargement of the spleen, and there are no emboli, and consequently no glomerular nephritis. At present we are

very suspicious when a patient enters the hospital with a history of an old lesion, but who has had good compensation for a time and has recently developed decompensation, that we are dealing with an acute process, and the presence of even a very moderate degree of fever helps to sustain this view.

DR. MORRIS WHITE, Minneapolis: I have been using small amounts of digitalis in auricular fibrillation, with fair success, but not so much as Dr. Christian reports. The margin between good digitalis effects and partial block is a narrow one. Dr. Hart did not state whether he had used quinidin after treatment with digitalis. Has he used it when the digitalis effects were wearing off?

DR. FRANK BILLINGS, Chicago: Richard Pearce found that sodium cacodylate in the animal is excreted in the urine as arsenous oxid. It appeared to be nontoxic. I began to use the drug in the treatment of chorea with good results. In 1905 I saw in consultation a boy, aged 10, who had acute rheumatic fever associated with a severe type of chorea and pancarditis, including pericarditis with serofibrinous effusion. The boy's condition was very serious. The first twenty-four hours 8 grains of sodium cacodylate was given subcutaneously in divided doses. Within thirty-six hours there was a marvelous change manifested by subsidence of the chorea, the disappearance of the fever and swollen joints and a practical resolution of the effusion within the pericardium. The drug was discontinued and within another thirty-six hours there was a complete recurrence of all the symptoms, including a renewal of the effusion within the pericardium. The drug was again given in the same dosage, and after the subsidence of the acute manifestation, which occurred again within forty-eight hours, it was continued in somewhat smaller dosage for a week or longer. Since that time I have continued to use the drug with the same positive good results in acute rheumatic pericarditis with effusion. Since then I have not found it necessary to perform paracentesis of the pericardium. This experience with the drug justified the belief that it had some specific effect in certain infections, notably acute chorea and acute rheumatic pericarditis. This experience also led to the use of the drug in chronic infectious endocarditis with *Streptococcus viridans* bacteremia. The drug is apparently nontoxic even when used in relatively large doses either subcutaneously or intravenously. I have given as high as 1 gm. intravenously every two or three days. No unfavorable toxic effect has been observed. I believe that a lesser dosage is quite as effective, and would advise those who use it to make the daily dose not greater than 0.6 or 0.7 gm., given either subcutaneously or intravenously in one dose.

DR. E. P. CARTER, Baltimore: I have long made use of Eggleston's dictum that 'the indication for digitalis is the degree of cardiac failure and not the cause." We have been studying the effect of digitalis in the presence of a normal mechanism with particular reference to its effect on the cardiac rate and the blood pressure. Patients showing evidences of marked cardiac failure have been put to bed and kept at rest without digitalis until the heart reached and maintained a rate at a constant level for each individual case. We then digitalized them and found in a large percentage of the cases in addition to the marked clinical improvement, a very striking slowing in the cardiac rate and even in some instances an actual shortening in the conduction interval and improvement in other phases of the galvanometric record, in addition to the fall in blood pressure. With the suggestion as to the possibility of digitalis being equally as dangerous as quinidin as a cause of sudden death, I cannot agree. Before the introduction of quinidin I attempted to see in how many cases of fibrillation I could, if possible, bring about a complete auriculoventricular dissociation by digitalis. I was successful in producing a complete dissociation in only three cases. Surely in these instances, were the danger from digitalis at all a real one, as suggested, I should have met with a catastrophe. One other point which should be brought out in connection with the action of digitalis in the presence of a normal mechanism is that following the administration of digitalis the greatest shortening of the cardiac muscle fibers coincides with the maximum degree of change in the T wave, and that the actual output of the heart per beat was increased in a large percentage of their observations. In reference to the use of quinidin, in our series of sixteen cases we have had two catastrophes of sudden death occurring shortly after the return to normal mechanism. In one case the postmortem disclosed the presence of auricular thrombi and numerous emboli, in the other a necropsy was not allowed.

DR. SOLOMON SOLIS-COHEN, Philadelphia: May I ask Dr. Christian whether he has any data concerning the relative numbers of cases of valve disease and cases of muscle disease without valve lesion among the cases in which he observed positive effects from digitalis? Also, whether he observed any difference in effect that seemed to be dependent on the presence of any special lesion of the valves? In chronic cases, at least, and whether or not there is fibrillation or flutter, I expect better results from long continued moderate dosage than from the newer method of enormous initial doses with lessening or omission later. Of course, I am not speaking of emergencies—they are a law unto themselves. Also, it is hardly needful to say that in the continued use of digitalis there must be periods of intermission and that the drug must be stopped when the indications for it no longer exist. Irrespective of the lesions and considering only the mechanics or dynamics of the circulation the indications or contraindications for digitalis are to be found in the advisability or inadvisability of slowing the heart, increasing the ventricular force, and improving the nutrition of the organ. To get this result there must, of course, remain a sufficient quantity of muscle substance capable of response to the influence of the drug. It will not revive the dead, and it will not be useful in cases of advanced muscular degeneration and it will do harm when there are certain forms of lesion in the atrioventricular bundles, but to look on fibrillation or disturbance of rhythm as the only or chief indication for its use is to ignore not only the clinical lessons of generations but also pharmacologic studies which cannot be set aside lightly.

DR. L. A. CONNER, New York: I would like to ask Dr. Libman whether he can give some idea of the proportion of his cases of *Streptococcus viridans* endocarditis that occurred in hearts with normal valves. I cannot recall ever having seen a case of viridans endocarditis which had not developed in a heart already the seat of some form of valvular damage. I have gradually gained the very definite impression that the chances of successful restoration and maintenance of a sinus rhythm is much greater when heart failure is present, if the patients have been thoroughly digitalized before quinidin is begun.

DR. ALFRED STENGEL, Philadelphia: I have not had the same experience with sodium cacodylate as mentioned by Drs. Capps and Billings. I think there might be danger in the heavy doses. Not all cases of endocarditis end fatally. I can refer to many cases in children up to the age of 12, in which there was an intermittent fever for three or four months, and ultimately the patient recovered.

DR. EMANUEL LIBMAN, New York: The studies made by Oppenheimer and Rothschild agree with those made by Dr. White as regards the infrequency of auriculoventricular block as compared with intraventricular (or arborization) block. Dr. White has well emphasized the value of electrocardiographic examinations for the diagnosis of intraventricular block. Occasional exceptions should not deter us from using a diagnostic method. It is necessary, of course, carefully to check up the electrocardiographic results by the clinical findings. Dr. Capps' results were obtained mainly in patients that had but little fever. It will be necessary to contrast the results in such cases with cases with the same grade of fever which have not been subjected to any but hygienic and dietetic methods of treatment. Arsenical preparations have been used quite extensively. The results cannot yet be analyzed.

DR. W. S. THAYER, Baltimore: There is a sharp line of distinction between the bacteria seen in ordinary endocarditis and those of the severe forms. There were four streptococcus cases in which the fever lasted thirteen weeks, and one pneu-

mococcus case lasting for the same length of time In sixty cases of *Streptococcus viridans* endocarditis there was no history of preexisting cardiac disease as far as we could judge in thirty-two patients

DR HENRY A CHRISTIAN, Boston As to whether patients had rest in bed for several days prior to digitalis therapy this has often been done so that we know that digitalis produces a marked effect beyond that produced by rest As to dosage, some had the large single, so-called physiologic dose, some had a modified large dosage, while others had a smaller dosage, such as 0 1 gm of powdered leaves of digitalis, three times a day The results were much the same by all methods, only, the larger the doses the sooner they became effective With regard to heart block, in patients with regular rhythm I observed no clinical evidence of such I think that, if Dr White had continued digitalis in his patients without reference to the occurrence of electrocardiographic evidence of slighter degrees of heart block, he would have obtained better results from digitalis in his cases As to whether these patients had valvular lesions, about two thirds were cases of chronic myocarditis without evidence of any organic valve lesion, but good effects also were obtained with digitalis in cases in which there were organic mitral and aortic lesions

DR T STUART HART, New York I have had no opportunity to study the cases in which the digitalis effects were passing off Our studies indicate a method which may furnish a means of finding out how digitalis and quinidin can be used together We saw no bad effects from the administration of quinidin At present, however, I feel that a drug so spectacular in its effects as quinidin should be used with the greatest caution

DR. J A CAPPS, Chicago The dosage of sodium cacodylate in my cases was never very large, from 2 to 4 grains a day over a long period, in preference to giving a very large dosage for a short period

DR. EMANUEL LIBMAN, New York It is very difficult to differentiate between the severe and the mild cases I do not believe that the temperature is always reliable, as we have often had patients die without high temperature

DR PAUL D WHITE, Boston It has been my experience that digitalis is much more effective in heart failure with auricular fibrillation (previously untreated) than in heart failure with normal rhythm (previously untreated)

Clinical Aspect of Studies on the Metabolism of Diabetes

DR ELLIOT P JOSLIN, Boston Prior to the introduction of treatment by undernutrition, the average urinary nitrogen excreted per kilogram of body weight for twenty-four hours was 0 265 gm After that time, for a considerably larger series of cases, the average urinary nitrogen excretion was 0 185 gm per kilogram of body weight for the twenty-four hours The average metabolism for the early series was + 12 per cent and for the later series — 11 per cent Comparison of the urinary nitrogen determinations with loss in body weight with metabolism and with the respiratory quotient suggest that protein metabolism alone does not control the total metabolism, that exogenous protein may be more stimulating to the metabolism than endogenous protein, that a very high nitrogen excretion in a severe diabetic may represent the prelethal rise, and that even such a diabetic may have the power to oxidize carbohydrate to a degree which is often not appreciated, but obviously should be utilized

Effects Produced on Diabetes by Extracts of Pancreas

DRS J J R MACLEOD, F G BANTING, O H BEST, J B CALLIP, W R CAMPBELL, A A FLETCHER and E C NOBLE, Toronto Researches on the action of pancreatic extracts have hitherto failed to take into account that there might be a powerful proteolytic enzyme which could destroy or digest any internal secretion also present We have sought to obtain the pancreatic secretion isolated from such a proteolytic ferment, and to study its independent action A highly potent product was obtained in small quantities from cattle fetus pancreas, which was termed 'insulin' This is harmless to man and to laboratory animals when given in proper dosage, but toxic in large proportions In seven cases of human diabetes mellitus, subcutaneous injection of insulin reduced the blood sugar to normal level with disappearance of sugar and ketone bodies from the urine The improved carbohydrate metabolism was evidenced by improvement in the respiratory quotient which rose decidedly within two hours, while the patients felt a marked improvement in symptoms and in general well being Laboratory experiments indicate that the pancreatic extract employed contained properties controlling carbohydrate and fat metabolism, yet its clinical results cannot be estimated Probably the dietetic treatment will still be foremost, but the extract promises to be of value in tiding the patient over those crises which are frequently uncontrollable by other means

Pathology of Human Botulism

DR A S WARTHIN, Ann Arbor, Mich Six cases of human botulism were studied, five arising from eating canned spinach and one from canned ripe olives The pathologic condition in all was the same The brains were removed shortly after death and showed a marked perivascular infiltration, hemorrhage in the vessels of the cortex and vascular edema Evidences of defensive reaction were rare in the cortex, and chiefly seen in the meninges The cases all presented a similar feature of antemortem gas production within the brain, and the formation of small gas cysts containing bacilli, morphologically resembling those of *B botulinus* These cases present evidence that human botulism may be an infection as well as an intoxication

Diagnosis and Treatment of Intestinal Tuberculosis

DR LAWRASON BROWN, Saranac Lake, N Y We studied 1,036 cases with regard to the presence or absence of intestinal tuberculosis, and found 146 cases positive Five per cent of these occurred early in pulmonary tuberculosis The cases were studied both fluoroscopically and roentgenographically Segmentation and dilatation of the small intestine is suggestive of tuberculous enteritis, in contradistinction to tuberculous colitis As operative results in these cases are rather poor, we looked for other methods of treatment We tried the ultraviolet lamp The roentgen ray has no effect on uncomplicated pulmonary tuberculosis, but it has considerable effect in clearing up the colon in tuberculous colitis, and after the colon has cleared up the lungs tend to clear up and the patient is much better

Experiences in the Treatment of Lobar Pneumonia by a Serum Free Solution of Pneumococcus Antibodies

DR. LEWIS A CONNER, New York The treatment is based on the capacity of bacteria to absorb their antibodies from the specific serum Pneumococci were exposed to human polyvalent serum, and the sensitized bacteria were then treated with mild alkaline salt solution The bacteria were washed to remove the serum, and, after being standardized, were centrifuged and used therapeutically The intravenous injection of antibody solution was given as soon as the diagnosis was established, without waiting for typing One hundred and fifteen cases were treated There was the usual foreign protein reaction—a severe chill and rapid rise of temperature the patient became cyanotic and the pulse rapid and small, then the temperature fell rapidly and the patient began to improve The thermal response is very severe There is a striking fall in leukocytosis, which sometimes rises again The physical signs did not follow the course of the temperature In one case of hyperpyrexia, death was probably due to the injection Three other fatalities occurred one in a morphin addict, one with uremia, and one with pulmonary embolus The advantages are the absence of anaphylaxis, and the avoidance of waiting to type the sputum The drawback is the extremely sharp reaction

Comparative Study of Treatment of Lobar Pneumonia With and Without Antibody Solution

DRS R L CECIL and N P LARSEN, New York One thousand cases of pneumonia were studied bacteriologically

importance in producing right ventricle dilatation Among 213 patients without sepsis in pneumonia who were not treated by the early routine administration of a standardized tincture of digitalis the percentage of deaths believed to have been associated with cardiac failure was 25 8 Among 709 patients without sepsis in pneumonia who were treated by the early routine administration of a standardized tincture of digitalis the percentage of deaths believed to have been associated with cardiac failure was 10 7

Lumbar Puncture Cures Diabetes Insipidus—In the case reported by Tucker there was a sudden onset of diabetes insipidus without any immediate preceding illness The subjective symptoms were a sense of discomfort behind the glabella increased thirst, a disquieting volume in urine output and marked sweating of the body and extremities Physical examination confirmed the subjective symptoms, and in addition, revealed involvement of the first (?) second, fifth and eighth cranial nerves on the left side Within twenty-four hours after lumbar puncture the great thirst was relieved, the urinary output was reduced to normal and the sweating ceased Examination five and a half months after the onset of the diabetes insipidus gave negative findings *with the exception of laboratory evidence for hypopituitarism*, revealed by the very high sugar tolerance It is suggested that the disturbance was due to a serous meningitis with edema of the infundibulum cerebri and involvement of certain cranial nerves on the left side The removal of 8 cc of subarachnoid fluid even though this was under normal pressure, was adequate to restore proper circulatory equilibrium

Influenzal Meningitis—The clinical picture in this case was that of an acute meningeal infection with a positive Kernig, Brudzinski, neck rigidity, retraction of the head fever and leukocytosis The exact diagnosis was of necessity made through the bacteriologic findings in the laboratory The bacillus obtained was gram-negative, hemoglobinophilic, pleomorphic, aerobic, nonhemolytic and nonmotile In a guinea-pig intraperitoneal injection was followed by peritonitis, septicemia and death in twenty-six hours In its morphologic and cultural characteristics the organism so described corresponds with forms isolated from meningitis cases by Slawyk, Wollstein and others

Primary Carcinoma of Liver with Lung and Kidney Metastases—A case of primary carcinoma of the right lobe of the liver, originating from the epithelium of the intrahepatic bile ducts, is reported by McKean Metastases were demonstrated in the liver substance, in glands at the lung hila, in the kidney and seeded throughout the parenchyma, pleurae and blood vessels of both lungs Numerous thrombi were found in the hepatic veins Many of the classical features of tumors of this type, i e, the right upper abdominal quadrant pain, jaundice, ascites and edema, were lacking The pulmonary symptoms, thoracic pain dyspnea and hemoptysis dominated the picture throughout, producing the most interesting phase of the case, the marked reduction in vital capacity as compared with the relative insignificance of the pulmonary signs The change in vital capacity furnished the first real evidence of the extent of progress of the intrathoracic process, which was later demonstrated in the necropsy room

American Journal of Obstetrics and Gynecology, St Louis

May 1922 3 No 5

*Diffuse Adenomyoma of Uterus Conditions Influencing Its Development O H Schwarz and F P McNalley St Louis—p 457
*Neoplasia of Kidney J E Davis Detroit—p 478
Transperitoneal Nephropexy T B Noble Indianapolis—p 493
Tran uterine Insufflation Diagnostic Aid in Sterility A J Rongy and S S Rosenfeld New York—p 496
End Results in Obstetrics C J Andrews Norfolk Va—p 502
*Indications for Management of Cord Stump Afforded by Study of Physiology of Navel in Newborn P Willson Washington D C—p 506
*Use of Lutein Solution Hypodermically for Control of Nausea and Vomiting of Pregnancy T Coffey Los Angeles—p 513
*Primary Carcinoma of Female Bladder Report of Case I S Stone Washington D C—p 517
Hemorrhage During Early Months of Pregnancy R Y Sullivan Washington D C—p 520
Coincident Ruptured Ectopic Gestation and Acute Suppurative Appendicitis C F Ruth Des Moines Ia—p 525
Double Uterus and Vagina D Hadden Oakland Calif—p 526
Hernia of Ileum Through a Rent in Mesentery F H Jackson, Houlton Me—p 527
Four Cesarean Operations on One Patient. H Thoms New Haven Conn—p 529

Diffuse Adenomyoma of Uterus—The study made by Schwarz and McNalley of forty-nine cases of diffuse adenomyoma of the uterus shows that in almost every instance this condition is present coincidently with one or more other lesions which are fundamental in influencing the development of the adenomyoma The inflammation in the uterine cases is a definite factor in the production of the lesion as in the cases of tubal adenomyoma cannot be substantiated

Neoplasia of Kidney—Davis reports five primary cases (1) papillary epithelioma, (2) hypernephroma, (3) malignant teratoma, (4) squamous cell carcinoma, (5) lymphoblastoma

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Lutein Solution to Control Vomiting of Pregnancy—Coffey endorses the hypodermic injection of lutein in the treatment of the vomiting of pregnancy Of sixty-two cases so treated fifty-five, or 88 6 per cent were improved The earlier the injections are begun the more gratifying the results The drug is apparently harmless, easily administered and leaves no unpleasant after effects There seems to be no increased tendency to abortion if the patient remains quiet following the injections

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American Journal of Ophthalmology, Chicago

May 1922 5 No 5

Retinitis Proliferans H V Wurdemann Seattle—p 337
Speed of Accommodation as Practicable Test for Flier L E Tefft and E K Stark Mitchel Field L I New York—p 339
Monocular and Binocular Judgment of Distance B V Deyo Mitchel Field L I New York—p 343
Causation of Simple Glaucoma J Dunn Richmond Va—p 348
Increased Intraocular Tension T Faith Chicago—p 352
Angle Alpha E Landolt Paris France—p 355
Errors in Ophthalmic Literature J M Ball St Louis—p 357
Eye Glasses Versus Spectacles F G Murphy Mason City Ia—p 360
Glioma of Retina M J Keys Victoria B C Can—p 362
Glaucoma a Ciliary Neuritis O Wipper Chicago—p 368
Bilateral Persistent Pupillary Membranes G N Brazeau Milwaukee—p 370
Gonorrheal Ophthalmia in Child of Two Years J A McCaw Denver—p 371

and clinically Half were treated with antibody solution, and half were used as controls The injection was usually followed by definite improvement and relief of pain It is difficult to estimate the therapeutic value of this agent The reactions were severe, and in three cases probably caused death In favorable cases it appears to shorten the disease and eliminate complications

Experimental Botulism, with Special Reference to Serum Therapy

DR M J ROSENAU, Boston Experiments have been worked out with the idea of procuring drugs to prevent the absorption of botulinus toxin and thus saving the patient until such time as the antitoxin can be procured Ether prevented the absorption of toxin until antitoxin could be procured Morphin had the same effect

Hemoglobinuria in Hemolytic Jaundice and Pernicious Anemia

DR H Z GIFFIN, Rochester, Minn In a case of hemolytic jaundice there occurred seven severe crises with hemoglobinuria Syphilis was excluded Cold and exposure did not produce attacks Hemoglobinuria recurred whenever the red cell count reached approximately 2 500 000 cells Three similar cases were found in the literature

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Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Anatomy, Philadelphia

May 15 1922 **30**, No 3

*Terminals of Human Bronchiole H G Willson Toronto —p 267
Oestrous Cycle in Mouse E Allen St Louis —p 297
Formation of Cardiac Loop in Chick B M Patten Cleveland —p 373

Terminals of Human Bronchiole—The material used by Willson in this study consisted of portions of the lungs of two subjects obtained at necropsies performed soon after death One was a woman aged 30, who had died of mitral stenosis, while the other was a child whose age could not be ascertained definitely, but was certainly less than 13 Serial sections and wax reconstructions were studied and as a result Willson is convinced that in the branching of the respiratory bronchioles there is far greater complexity, irregularity and a greater degree of interlocking than is usually described There is no spherical space, or 'atrium,' such as has been described by Miller The method of branching of the bronchioles is dichotomous until the terminals are approached, and then the branching becomes irregular Counting as the first branch a respiratory bronchiole arising from a nonrespiratory one, the air sac is usually reached from the fifth to the seventh branch There are normally no direct communications between adjacent alveoli The bronchioles do not decrease in diameter as the periphery is approached, but remain of fairly uniform size until the air sacs are reached, and the air sacs are, as a rule, of greater diameter than the tubes from which they arise Waters' rule that the planes of successive dichotomies cut one another at right angles is only exceptionally confirmed The lung of the child is just as complex in structure as that of the adult It is calculated that during ordinary deep inspiration the total area of respiratory and nonrespiratory epithelium in the adult lung is not greater than 70 square meters

American Journal of Medical Sciences, Philadelphia

May 1922 **163** No 5

Impending and Real Gangrene Associated with Diabetes Correlation of Medical and Surgical Effort B M Bernheim Baltimore —p 625
*Prevention of Simple Goiter in Man O P Kimball, Cleveland —p 634
*Occurrence of Physical Signs Suggestive of Aortic Defects F A. Craig, Philadelphia —p 649
*Heart Muscle Changes in Pneumonia Remarks on Digitalis Therapy W J Stone Pasadena Calif —p 659
*Immediate Recovery from Early Diabetes Insipidus After Lumbar Puncture J Tucker Cleveland —p 668
*Clinical Bacteriologic and Pathologic Findings in Case of Influenzal Meningitis E R Templeton D S King and R. McKean, Boston. —p 675
Experimental Polyuria McM Hanchett Chicago —p 685
Correlation of Clinical and Pathologic Findings in Nephritis P F Morse, Detroit —p 697
*Lowered Vital Capacity of Lungs in Case of Primary Hepatic Tumor with Pulmonary Metastases R M McKean Detroit —p 710
Early Manifestations and Rational Treatment of Tabes Dorsalis H F Stoll Hartford, Conn —p 723
Question of Use of Anesthesia in Lumbar Puncture J C Regan, Brooklyn —p 738
Two Cases of Agenesis (Congenital Paralysis) of Cranial Nerves W B Cadwalader Philadelphia —p 744

Prevention of Goiter—Kimball urges that the prevention of goiter in the adolescent period should be a public health measure under state, county or municipal control The existing systems of organization of the schools, both public and private, are sufficient to handle all the details without additional aid or expense Education of the pupils could be combined with the actual administration of iodin, so that after leaving school they could continue the treatment if necessary In industrial medicine physicians could render an important service in this direction As thyroid enlargement is approximately six times as frequent in girls as in boys, each community must decide whether it will include both sexes in prophylactic measures, as it must also decide regarding the ages when the use of iodin should begin and end In this climate probably the maximum of prevention coupled with the minimum of effort, would be obtained by the administration of iodin between the ages of 11 and 17 years As applied to schools this would mean beginning with the fifth grade

Physical Signs Suggesting Aortic Defects—In the examination of large bodies of men Craig urges that more attention should be directed to the study of the upper anterior chest than is usually devoted to this region especially, but by no means exclusively, in those over 40 In a study of 5,706 men with an average age of from 45 to 49 years, signs were found suggesting changes in the aorta in about 0 85 per cent The large proportion of cases were associated with some degree of hypertension Nonsyphilitic cases are encountered with relative frequency in which the physical signs strongly suggest the presence of aortic changes which may or may not be appreciable by roentgen-ray examination

Heart Muscle Changes in Pneumonia—An analysis was made by Stone of the data secured by the study of 1,205 patients with lobar and bronchopneumonia with reference to the digitalis therapy Two hundred and seventy-nine patients with pneumonia did not receive routine digitalis therapy while 926 patients received full dosage of a potent tincture standardized by the cat method of Hatcher The gross heart muscle changes as shown in 259 pneumonia necropsies are described, together with the microscopic study of seventy-one heart muscle sections The influence of these changes on the probable cause of death is discussed together with the benefit believed to have been secured in treatment by the use of digitalis Sepsis in pneumonia was the most serious complication and the most frequent cause of death in the subacute or chronic forms of the disease, that is, among those who died as late as the fourteenth day of illness or subsequently Among 283 patients in whom sepsis occurred there were 161 deaths, a mortality rate of 56 8 per cent, while among 922 pneumonia patients without sepsis there were 131 deaths, a mortality rate of 14 2 per cent Among the causes other than sepsis responsible for death in many acute forms of the disease, cardiac muscle failure appeared to have been a prominent factor Right ventricle dilatation was found to have occurred in 39 4 per cent of eighty-nine lobar pneumonia necropsies and in 36 6 per cent of 112 bronchopneumonia necropsies Parenchymatous, fatty and hyaline degeneration or evidence of inflammatory reaction in the heart muscle were found in 79 3 per cent of the sections from thirty-four lobar pneumonia necropsies and in 59 4 per cent of the sections from thirty-seven bronchopneumonia necropsies The extent of these changes when considered with the right ventricle dilatation was believed in many instances to have been responsible for the circulatory failure which had occurred The mechanical obstruction to the pulmonary circulation in extensive or massive consolidation was apparently a factor of great

importance in producing right ventricle dilatation Among 213 patients without sepsis in pneumonia who were not treated by the early routine administration of a standardized tincture of digitalis the percentage of deaths believed to have been associated with cardiac failure was 25 8 Among 709 patients without sepsis in pneumonia who were treated by the early routine administration of a standardized tincture of digitalis the percentage of deaths believed to have been associated with cardiac failure was 10 7

Lumbar Puncture Cures Diabetes Insipidus—In the case reported by Tucker there was a sudden onset of diabetes insipidus without any immediate preceding illness The subjective symptoms were a sense of discomfort behind the glabella increased thirst, a disquieting volume in urine output and marked sweating of the body and extremities Physical examination confirmed the subjective symptoms, and in addition, revealed involvement of the first (?), second, fifth and eighth cranial nerves on the left side Within twenty-four hours after lumbar puncture the great thirst was relieved, the urinary output was reduced to normal and the sweating ceased Examination five and a half months after the onset of the diabetes insipidus gave negative findings with the exception of laboratory evidence for hypopituitarism revealed by the very high sugar tolerance It is suggested that the disturbance was due to a serous meningitis with edema of the infundibulum cerebri and involvement of certain cranial nerves on the left side The removal of 8 c.c of subarachnoid fluid, even though this was under normal pressure, was adequate to restore proper circulatory equilibrium

Influenzal Meningitis—The clinical picture in this case was that of an acute meningeal infection with a positive Kernig, Brudzinski neck rigidity, retraction of the head, fever and leukocytosis The exact diagnosis was of necessity made through the bacteriologic findings in the laboratory The bacillus obtained was gram-negative, hemoglobinophilic, pleomorphic, aerobic, nonhemolytic and nonmotile In a guinea-pig intraperitoneal injection was followed by peritonitis, septicemia and death in twenty-six hours In its morphologic and cultural characteristics the organism so described corresponds with forms isolated from meningitis cases by Slawyk, Wollstein and others

Primary Carcinoma of Liver with Lung and Kidney Metastases—A case of primary carcinoma of the right lobe of the liver, originating from the epithelium of the intrahepatic bile ducts, is reported by McKean Metastases were demonstrated in the liver substance, in glands at the lung hila in the kidney and seeded throughout the parenchyma, pleurae and blood vessels of both lungs Numerous thrombi were found in the hepatic veins Many of the classical features of tumors of this type, i e, the right upper abdominal quadrant pain, jaundice, ascites and edema, were lacking The pulmonary symptoms, thoracic pain, dyspnea and hemoptysis dominated the picture throughout, producing the most interesting phase of the case, the marked reduction in vital capacity as compared with the relative insignificance of the pulmonary signs The change in vital capacity furnished the first real evidence of the extent of progress of the intrathoracic process, which was later demonstrated in the necropsy room

American Journal of Obstetrics and Gynecology, St Louis

May 1922 3 No 5

*Diffuse Adenomyoma of Uterus Conditions Influencing Its Development. O H Schwarz and F P McNalley St Louis—p 457
*Neoplasia of Kidney J E Davis Detroit—p 478
Transperitoneal Nephropexy T B Noble Indianapolis—p 493
Tran uterine Insufflation Diagnostic Aid in Sterility A J Rongy and S S Rosenfeld New York—p 496
End Results in Obstetrics C J Andrews Norfolk Va—p 502
*Indications for Management of Cord Stump Afforded by Study of Physiology of Navel in Newborn P Willson Washington D C—p 506
*Use of Lutein Solution Hypodermically for Control of Nausea and Vomiting of Pregnancy F Coffey Los Angeles—p 513
*Primary Carcinoma of Female Bladder Report of Case I S Stone Washington D C—p 517
Hemorrhage During Early Months of Pregnancy R Y Sullivan, Washington D C—p 520
Coincident Ruptured Ectopic Gestation and Acute Suppurative Appendicitis C L Ruth Des Moines Ia—p 525
Double Uterus and Vagina D Hadden Oakland Calif—p 526
Hernia of Ileum Through a Rent in Mesentery F H Jackson Houlton Me—p 527
Four Cesarean Operations on One Patient. H Thoms New Haven Conn—p 529

Diffuse Adenomyoma of Uterus—The study made by Schwarz and McNalley of forty-nine cases of diffuse adenomyoma of the uterus shows that in almost every instance this condition is present coincidently with one or more other lesions which are fundamental in influencing the development of the adenomyoma The inflammation in the uterine cases is a definite factor in the production of the lesion as in the cases of tubal adenomyoma cannot be substantiated

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American Journal of Ophthalmology, Chicago

May 1922 5 No 5

Retinitis Proliferans H V Würdemann Seattle—p 337
Speed of Accommodation as Practicable Test for Fliers L E Tefft and E K Stark Mitchel Field L I New York—p 339
Monocular and Binocular Judgment of Distance B V Deyo Mitchel Field L I New York—p 343
Causation of Simple Glaucoma J Dunn Richmond Va—p 348
Increased Intraocular Tension T Faith Chicago—p 352
Angle Alpha E. Landolt Paris France—p 355
Errors in Ophthalmic Literature J M Ball St Louis—p 357
Eye Glasses Versus Spectacles F G Murphy Mason City Ia—p 360
Glioma of Retina M J Keys Victoria B C Can—p 362
Glaucoma a Ciliary Neuritis O Wipper Chicago—p 368
Bilateral Persistent Pupillary Membranes G N Brazeau Milwaukee—p 370
Gonorrheal Ophthalmia in Child of Two Years J A McCaw Denver—p 371

Corneal Ulcer Following Application of Tonometer W J Gilbert Calais Me —p 371
Detachment of Retina Following Intracapsular Cataract Extraction W Ralston and E L Goar Houston, Tex —p 372
Amulets for Cure of Diseases of Eyes H Friedenwald, Baltimore Baltimore —p 372

American Journal of Psychiatry, Baltimore

April 1922, 1, No 4

*Preliminary Study of Precipitating Situation in Two Hundred Cases of Mental Disease E A Strecker —p 503
Nature of Thinking Disorder F L Wells Boston —p 537
Rating Scheme for Conduct J S Plant Waverly Mass —p 547
Reversible Schizophrenia Study of Implications of Delirium Schizophrenoides and Other Post Influenzal Syndromes K A Menninger Topeka Kan —p 573
Emotional States and Illegal Acts in Connection with Schizophrenia J R Oliver —p 589
Blood Constituents and Mental State H S Newcomer, West Philadelphia.—p 609
*Epilepsy in Offspring of Epileptics D A Thom and G S Walker Boston —p 613
Environment as It Influences Development of Juvenile Delinquent P L Dodge Boston —p 629
Magnesium as Sedative P G Weston Warren Pa 637
Industrial Psychiatry J D Ball Berkeley Calif —p 639
Report of Case of Epidemic Encephalitis with Cord Changes Suggestive of Possibility of Early Syringomyelia A F Harris, Worcester Mass —p 679

Precipitating Situation of Manic Depressive Psychosis and Dementia Praecox—Strecker's study embraces a comparison between 100 manic-depressive psychoses and 100 cases of dementia praecox from the standpoint of the significance of the precipitating situations and a further comparison as to whether the organic or the psychogenic aspects were more emphatic A significant or important precipitating situation occurred in fifty-two, or more than 25 per cent, of the patients Influenza, overwork and exhaustion, the climacteric and complicated childbirth, were the most frequent somatic factors, the most common psychic problems were cruelty, poverty, illness and death of relatives, and unhappy love affairs Significant and important exciting factors were more frequent by 12 per cent in manic depressive psychosis, there was little difference between the two forms of mental disease in the doubtful and insignificant groups, but the absence of favoring circumstances was six times more frequent in schizophrenia The proportion of somatic and psychic features was practically the same for manic depressive and dementia praecox, the somatic predominating in the significant and important situations, the psychic in the doubtful and insignificant ones An abnormal personality occurred with greater frequency in those patients whose mental illness came on without adequate exciting factors The percentage difference was 13 per cent for manic depressive psychosis and 24 per cent for schizophrenia

Heredity in Epilepsy—In view of past experience and present knowledge, Thom and Walter are quite convinced that epilepsy, as such, does not exist and is by no means entitled to the classification of a disease entity The syndrome which goes to make up the condition which has borne the name of epilepsy is neither constant nor characteristic The convulsions caused by lesions of the kidney are quite indistinguishable from those produced by an acute infection In neither case, may they differ from the group called idiopathic epilepsy An extremely high percentage of the cases which come to necropsy have gross brain lesions and many of these cases during life have been diagnosed as idiopathic epilepsy One hundred and seventeen cases were selected for review The diagnosis of epilepsy had been determined in all these cases The subjects had all been married and had borne one or more living children The total number of children resulting from these 117 matings was 431, of which 280 are still living Of the parents seventy-six were females, forty-one males Ninety-nine cases were idiopathic, eighteen organic The onset of the convulsions began in fifty-nine cases prior to marriage and in fifty-eight cases after marriage Of the total of 117 epileptic parents only twenty-two gave birth to epileptic children Thom and Walker believe that epilepsy as a disease is not transmitted directly from parent to offspring, but rather that it is the nervous system lacking in the normal stability that is inherited, and the manifestations of this instability may be mental deficiency of all degrees, insanity of various types, neurologic and psychopathic disorders convulsions from various exciting causes which would have little or no effect on a normally developed nervous system These mental and nervous disorders are less frequently found in the offspring of the so-called epileptic than has heretofore been believed and the future of the offspring borne of epileptic parents is not as hopeless as the pessimistic authorities on heredity record Maternal defects are more frequently manifested in some form or other in the offspring than are the paternal defects and, when present, are more likely to appear at an earlier age

American Journal of Physiology, Baltimore

May, 1922 60, No 3

Adaptation of Albino Mice to an Artificially Produced Tropical Climate. I Effect of Various Factors Composing a Tropical Climate on Growth and Fertility of Mice F S Sundstroem Berkeley Calif —p 397
Id II Relations of Body Form and Especially Surface Area to Reactions Released by and Resistance to Tropical Climate E S Sundstroem Berkeley, Calif —p 416
Id III Effect of Tropical Climate on Growth and Pigmentation of Hair and Dependence of These Integumental Functions on Temperature Coefficient Law E S Sundstroem Berkeley Calif —p 425
Id IV Effect of Light and Heat on Resistance of Mice to Acetonitrile E S Sundstroem, Berkeley, Calif —p 434
Id V Effect of Humid Heat on Blood Morphology of Mice E S Sundstroem, Berkeley, Calif —p 443
Placental Permeability II Localization of Certain Physiologic Activities in Chorionic Ectoderm in Cat R S Cunningham Baltimore —p 448
*Experimental Traumatic Shock VI Liberation of Epinephrin in Traumatic Shock D Rapport Boston —p 461
Conditions of Activity in Endocrine Glands IX Further Evidence of Nervous Control of Thyroid Secretion W B Cannon and P E Smith Boston —p 476
Effect of Some Polyhydric Alcohols on Behavior of Rats in Circular Maze D I Macht and G C Ting Baltimore —p 496
*Comparison of Waves of Blood Pressure Produced by Slow and Rapid Breathing R T Trotter, P Edson and R Gesell Berkeley, Calif —p 500
*Alkaligenesis in Tissues I Ammonia Production in Nerve Fiber During Excitation S Tashiro Cincinnati —p 519
Conditions of Activity of Endocrine Glands X Cardio-Accelerator Substance Produced by Hepatic Stimulation W B Cannon and F R Griffith Boston —p 544
Vasomotor Responses Obtained by Slowly Interrupted Faradic Stimulation of Thoracic Sympathetic Nerve L F Davis Chicago —p 560
*Isolation of Substance from Urine Having Properties of Citric Acid Description of an Apparatus Facilitating Working with Small Volumes of Gas S Amberg and M E Mayer Rochester Minn —p 564
Influence of Meat on Physical Efficiency S H Bassett, E. Holt and F O Santos New York —p 574
Gastrin Theory Put to Physiologic Test A C Ivy and J E Whitlow, Chicago —p 578

Experimental Traumatic Shock—In six out of nine cases reported by Rapport there is evidence of hyperactivity of the suprarenal glands during the development of traumatic shock There is no sufficient reason to believe that either oversecretion of the suprarenals, or their exhaustion, is a factor in the production of shock The probability is suggested that overactivity of the glands is a conserving factor in the development of shock

Effect of Breathing on Blood Pressure—The effects of rapid breathing were compared by Trotter et al with those of more normal breathing upon the systolic blood pressure in man Supplementary data were also obtained on the dog and cat For the well known changes of blood pressure that occur during a single respiration, and which are more or less synchronous with the changing respiratory phases, the authors have proposed the name of simple cardiorespiratory waves to distinguish them from those waves produced by rapid breathing The oscillations of pressure elicited during rapid breathing by the interference method they have designated as cardiorespiratory interference waves The most striking difference in the respiratory relations of the simple and interference waves is that in the simple waves the blood pressure changes are complete within the period of a single respiration, while in the interference waves the gamut of the blood pressure changes is run through in the interval of several respirations The production of interference waves of blood pressure is dependent on the establishment of cardiorespiratory cycles, in which the number of respirations is greater by one or less by one than the number of heart beats making up the waves and occurring in the same time interval

Ammonia Production in Nerve Fiber—Evidence is given by Tashiro to show that resting nerves give off exceedingly minute quantities of a volatile base-forming substance which

during stimulation is greatly increased and that this substance is probably ammonia Methods are described by which as little as 0 00000001 gm ammonia can be measured

Substance in Urine with Properties of Citric Acid—The substance isolated by Amberg and Mayer from urine in the form of an impure barium compound had certain properties in common with citric acid These results support a previously made contention that citric acid occurs in the urine of normal human beings, but still they do not convey absolute proof, which rests solely on the isolation of the acid or its salts in a form pure enough for identification

Influence of Meat on Physical Efficiency—The results obtained by Bassett et al show that the presence or absence of meat from the dietary, during periods as long as one week, has no demonstrable effect on the capacity of doing an amount of work so graded as to reach the limit of the physical capacity during a short period of time This accords with the doctrine of Chittenden There was a distinct and uniformly present sense of sleepiness for two or three hours during the afternoon period following the ingestion of 300 gm meat Removal of meat from the dietary for a period of one week did not diminish the sense of well being in the persons investigated The well nigh universal opinion that meat ingestion is important for the maintenance of physical strength is not to be disregarded, but the experimental evidence in favor of this conception has yet to be produced

American Journal of Public Health, Chicago

May 1922 **12**, No 5

Occupational Therapy J W Brannan New York—p 367
Anemia in Professional Donors Study in New Phase of Public Health L W Famulener—p 376
Mortality of Two Sexes in First Year of Life with Special Reference to Whooping Cough S J Holmes—p 378
Cremation Versus Burial—Plea for More Sanitary and More Economical Disposition of Our Dead S A Knopf New York—p 389
How Can We Best Solve Midwifery Problem C E Ziegler Pittsburgh—p 405
Public Health Work in Ceylon S T Gunasekara Ceylon—p 414
Industrial Wastes in Relation to Water Supplies W Donaldson New York—p 420

Archives of Diagnosis, New York

April 1922 **14** No 4

Pituitary Disorders in Their Relation to Acromegaly (Hyper Pre Pituitarism) Suggestions for Use of More Precise Terminology E. B Krumbhaar—p 213
Diagnosis and Prognosis of Nephritis E C Reifenstein Syracuse N Y—p 240

Archives of Neurology and Psychiatry, Chicago

June 1922 **7**, No 6

Essay on Shaking Palsy by James Parkinson M D Member of the Royal College of Surgeons with a Bibliographic Note Thereon by Alfred J Ostheimer Philadelphia.—p 681
*Parkinson's Disease Clinical Study of One Hundred and Forty Six Cases. H T Patrick and D M Levy Chicago—p 711
*Heredity in Epilepsy Study of One Thousand Four Hundred and Forty Nine Cases C W Burr Philadelphia—p 721
Intravenous Administration of Iodids F J Farnell Providence, R I—p 729
*Serologic Changes in Neurosyphilitic Patients During a Period of Non treatment H Omar and P H Carroll Mendota Wis—p 733
Epidemic Encephalitis with Myelitis W G Spiller Philadelphia—p 739
*Actinomycosis of Central Nervous System F P Moersch Rochester Minn—p 745

Study of Parkinson's Disease—One hundred and forty-six private cases of 'classical' paralysis agitans were used by Patrick and Levy for studies in age and sex distribution, 140 for clinical studies Frequency by decades was found to be greatest in the fifties and next in the forties 80 per cent of the patients were between 40 and 70 and 55 per cent were over 50 years of age These findings agree with other statistics Considered in relation to the age incidence of the general population, the vast majority of patients are over 50 when the disease begins, and the onset is relatively more frequent in the seventies than in the thirties The ratio of males to females was 3 to 2 Trauma occurred in twenty-two cases, and in these as in the histories of infected parts it was shown that the symptoms of paralysis agitans tend to start in a traumatized or diseased part Since in this series there was a history of trauma in only 15 per cent of all cases, it cannot be concluded that trauma is predisposing in any sense except as to the site of the initial symptom A large number of mental symptoms were shown by forty-eight patients, or in 34 per cent of the cases In contrast with the findings in other studies, *mental symptoms* were found to occur as frequently before as after the onset of the disease These symptoms were largely in the form of depressive reaction Menstrual disturbances were found to be of no special significance Heredity findings were not significant except in the form of 'neuropathic heredity" in about 25 per cent of the cases Direct heredity of the disease was traced in six cases The complications were tabes, one, hemiplegia two, trifacial neuralgia, two, hyperthyroidism, one, and diabetes one Fifteen patients had hemiparalysis agitans, eighteen cases were accompanied by intention tremor five patients had one-sided facial involvement four had paralysis agitans sine agitatione, two paralysis agitans sine rigiditate and three had "bulbar symptoms"

Heredity in Epilepsy—Burr's statistics do not show that direct inheritance is important since only thirty-four parents were known to be affected On the other hand the frequency of insanity, crime, chorea, alcoholism and epilepsy in relatives points toward congenital instability resulting from abnormality in the germ cell or sperm cell Considering all the data, it is safe to assume, Burr says, that the effect of heredity is rarely direct, that usually it is indirect and general not specific In other words, a predisposition to nervous or mental disease is inherited, the resulting specific disease depends on external causes—it is environmental in the broadest meaning of the word

Intravenous Administration of Iodids—Recognizing the value of intravenous hypertonic iodids in the treatment of oidiomycosis at least 400 intravenous injections of hypertonic iodids have been given by Farnell and observations have been made on the value of this iodid therapy He has used sodium iodid exclusively *The preparation is made in from 8 to 15* per cent (10 per cent is the usual rate) solutions in distilled water which is also autoclaved—amount, 100 c c This is then boiled and cooled and given by gravity intravenously (made fresh for each treatment) A distinctly hypertonic solution of high concentration is thus produced In no case has there been any irritation of the digestive tract Skin eruptions were observed in one case Coryza was observed in one case Farnell is convinced that iodin injected into the blood stream in hypertonic form has a tendency to reduce the idiosyncrasy toward iodism Iodids introduced into the blood stream appear to readjust systemic fungus disturbances (oidiomycosis) very rapidly Iodids injected intravenously in concentrated form appear to help materially the action of arsphenamin on the diseased tissues and cells Iodids introduced into the blood stream in hypertonic solutions probably have some influence on reducing the edema, hyperemia, etc, of the brain in increased brain bulk disorders

Serology of Neurosyphilis During Nontreatment Period—A selected group of nine paretic patients was studied by Omar and Carroll during a period of over six months, during which time no specific medication was administered Eight of the nine gave findings which were uniformly positive in both the blood and cerebrospinal fluid The laboratory findings remained practically unchanged during a seven month period of nontreatment

Actinomycosis of Central Nervous System.—Moersch presents the clinical history of two cases which terminated fatally and in which the necropsy showed extension of the disease to the membranes of the brain and cord and in one case the brain substance showed some cell degeneration and slight blood vessel infiltration and the *cord substance showed* some swelling of the nerve cells with displaced nuclei and moderate blood vessel infiltration but no abscesses or foci were discovered and no fungi were found in the membranes of the cord

Boston Medical and Surgical Journal

May 25 1922 **186** No 21

*Dispensary Development with Especial Reference to Outpatient Department of Massachusetts General Hospital P D White Boston—p 693
*Acute Intussusception W F Harper Boston—p 700
*Experience with Radium in Malignant Disease of Esophagus and Upper Respiratory Tract H H Forbes New York—p 705

Acute Intussusception—In the cases reported by Harper from the Children's Hospital, the following symptoms were present in the following order (1) Recurring attacks of pain associated with pallor, cold sweat and reflex nausea (2) Mucus blood stained mucus, and blood in movements (3) Obstructive vomiting (4) Toxemia due to obstruction In 112 cases there were forty-four deaths, a percentage death rate of 39 2 The mortality depends less on the skill of the operator than on the length of history prior to operation Therefore, it lies in the hands of the practitioner to reduce the mortality

Radium Therapy of Esophagus Cancer—Forbes states that the results of the use of radium in cases of esophageal cancer have been nil In the pharyngeal and the laryngeal cases of cancer the results are not quite so bad The earliest recognition of malignancy in the larynx and early operation will give the greatest benefit to the patient Radium may be applied before the operation or later Forbes does not feel that radium is a powerful therapeutic agent Cooperation must exist between the radiologist and the specialist, both for diagnosis and for treatment Failures of today may be successes of tomorrow, as knowledge of the more scientific application of this element increases

June 1 1922 **18G**, No 22

*Avulsion of Scalp Review of Literature and Report of Case C A Porter and W M Shedden Boston—p 727
*Traumatic Osteitis of Wrist M H Rogers Boston—p 730
*Transperitoneal Cervical Cesarean Section Report of Cases L F Phaneuf and J G Hegarty Boston—p 733
*Glioma of Lumbar Cord Case Report D S Adams Worcester Mass—p 738

Avulsion of Scalp—Porter and Shedden relate the case of a woman aged 58, who was caught by the hair in the revolving wheel of a shoe-stitching machine and her entire scalp was torn off, as was also the upper part of both upper lids and the left ear, excepting the tragus, antitragus and lobule This left upper ear remained attached by a narrow pedicle posteriorly After nine weeks of wet dressings a heterogenous Thiersch graft was transplanted to the patient's vertex This did not take Reverdin autogenous grafts were then applied This procedure was repeated about every ten days during the next three months, and most of these grafts took It was noted during the time she was under observation that the scalp tended to intermittently lose considerable portions of skin from pressure or microbic invasion The patient complained of a constant dull ache in her "eyeballs" An attempt was made to get better vascularization of the scalp by drilling through the calvarium to the dura through five of the ulcerated areas in the front region She improved slightly for a while as regards the ulcerations, but entered the hospital again six months later, showing six large and ten small ulcerations She now complained of a constant dull generalized headache and of a feeling of pressure so intense that she could not even bear to have her wig one Eighteen holes about 1 cm in diameter were drilled through the calvarium to the dura One week after operation the headache had disappeared From that time the scalp gradually healed Each drill hole continued to suppurate until it discharged a bit of necrotic bone, the necrosis resulting from the trauma of the drill used in the trephining These pieces were sometimes complete bony rings The patient now feels perfectly well The scalp is almost completely healed and shows no tendency to break down

Traumatic Osteitis of Wrist—Rogers reports four cases in which there was an absorption of the bone structure of the scaphoid or the semilunar with a 'crinkled" appearance of the contour probably secondary to trauma

Transperitoneal Cervical Cesarean Section—Of thirty-three transperitoneal operations analyzed by Phaneuf and Hegarty there were nine septic, twenty-one clean cases, and three deaths The puerperium in the clean cases was as near ideal as it can be following an abdominal section These patients were free from peritoneal shock and paralytic ileus, and the bowels, as well as the bladder, functioned normally The convalescence, as a whole, resembled more closely that of a normal delivery than that of a cesarean section The authors state that the transperitoneal cesarean section seems to afford protection against septic peritonitis There is less shock as the intestines are not handled There is less bleeding The mother has a much easier puerperium There is better healing since the incision is in the cervix, the noncontractile part of the uterus There is less danger of rupture in subsequent pregnancies It does not contraindicate the test of labor

Glioma of Lumbar Cord—The case cited by Adams is of interest because, although a fatality, it was complete The neoplasm was irremovable Involving the cord from the second lumbar segment down, it invaded the anterior horns, giving chiefly motor symptoms The posterior horns being less involved, few sensory disturbances were elicited The fluid obtained at lumbar puncture gave an example of Froin's syndrome

Journal of Laboratory and Clinical Medicine, St Louis

May 1922 **7**, No 8

*Blood Flow in Man as Estimated by Calorimetric Method of Stewart N B Taylor Toronto Can—p 439
*Pancreatic Extracts F G Banting and C H Best Toronto Can—p 464
*Yeast Therapy and Uric Acid Excretion A H Smith with Collaboration of H J Deuel Jr L Ascham and F B Seibert New Haven Conn—p 473
New Laboratory Apparatus J L Laird Philadelphia—p 477
Sources of Error in Epstein Method for Blood Sugar Determination and Modified Technic C M Wilhelmj St Louis—p 489
Blood Sugar Content of Capillary Blood as Compared with That of Venous Blood I Neuwirth and I S Kleiner—p 495

Estimation of Blood Flow—From a large number of blood flow determinations on normal persons Taylor found that the amplitude of the flow differs widely in different persons, that the flow fluctuates spontaneously to the extent of several grams per 100 c c per minute in the same individual *during the course of an experiment*, and that marked alterations in the flow are effected by changes in the temperature of the atmosphere The flow in the hand may be influenced reflexly by applications of heat or cold to either hand or foot Thus immersion of the hand in hot or cold water produces a rise or fall respectively in both hands The response to draughts is similar in nature to the response following the immersion of the hand in cold water Heat applied to the feet produces in some individuals a rise and in others a fall in the blood flow through the hands, the particular effect produced is constant for the same individuals Local exercise produces a drop in flow of the opposite hand The flow in the exercised hand is increased in some cases and reduced in others, the effect being unpredictable

Extract of Fetal Pancreas—The possibility that the fetal pancreas might prove a source of an extract rich in internal secretion and yet free from the destructive enzymes of pancreatic juice led Banting and Best to experiment with fetal calf pancreas By intravenous and subcutaneous injections of neutral saline extracts prepared from the pancreas of the bovine fetus at about the fifth month, the percentage of blood sugar and the daily urinary excretion of sugar were markedly reduced in depancreated dogs Daily injections of extract of pancreas enabled a depancreatized dog to live for seventy days The active (antidiabetic) principle of such extracts is destroyed by boiling in strongly acid reaction, but it is not affected by the presence of tricresol, which may, therefore, be used as a preservative The depressor action of the extract is shortlived

Yeast Does Not Increase Uric Acid Excretion—The data obtained by Smith et al show that the ingestion of therapeutic doses of live bakery yeast is not attended with such an increase in metabolism as would augment the excretion of endogenous uric acid

Blood Sugar Content—In twenty individuals the capillary blood sugar was found by Neuwirth and Kleiner to closely parallel the venous blood sugar For clinical purposes the two values may be considered identical

Kentucky Medical Journal, Bowling Green

May, 1922 **20** No 5

Differential Diagnosis of Acute Abdominal Pain F T Fort, Louisville—p 339
Extensive Injury to Urinary Bladder During Operation for Uterine Fibroid C Farmer Louisville—p 340

Paralysis of Leg Following Labor F C Simpson Louisville—p 342
Ligation Treatment of Diseases of Thyroid W I Hume, Louisville—p 344
Two Cases of Ectopic Gestation, One of Chronic Pyloric Ulcer L W Frank Louisville—p 349
Modern Treatment of Obesity S Rose Winchester—p 354
Laboratory in Diagnosis L K Baldauf Louisville—p 357
Continuous Uterine Hemorrhage of Three Years Duration in Girl of Seventeen Cured by One Application of Radium D Y Keith, Louisville—p 365
Epithelioma of Face and Ear W I Young Louisville—p 367
Complicated Anorectal Fistula G S Hines Louisville—p 368
Glioma of Cerebrum in Child H H Hagan and S Graves Louisville—p 371
Offending Tonsil W T Bruner Louisville—p 373

Maine Medical Association Journal, Portland

May 1922 **12**, No 10

Empyema. P P Thompson—p 275

Military Surgeon, Washington, D C

May 1922 **50** No 5

Plan for Conservation of Health of Males Within Second Decade of Life in Relation to Military Defense J R Church—p 487
Some Notes on Medical Service of Army 1812 1839 C W Ayars—p 505
Control and Prevention of Diphtheria in U S Army P F McGuire E S Lanthicum G J Schirch and J D Nourse—p 525
Etiology of Scurvy IV Observations Concerning Physiologic Action of Antiscorbutic Vitaliment F B Vedder—p 544
Idiopathic Tropical Pyrexia with Special Reference to Intermittent Non Malarial Fever R W Mendelson—p 547
Diphtheria as Seen in American Forces in Germany H C Michie Jr—p 551
Experiences with Hookworm H A Patterson—p 562
Managing Things W L Pyles—p 570

Northwest Medicine Seattle

May 1922 **21**, No 5

Modification of Indications for Operative Interference in Gynecology Imposed by Present Day Radium Therapy R E Skeel Los Angeles—p 131
Roentgen Rays as Aid in Diagnosis of Diseases of Mastoids and Nasal Sinuses J Aspray, Spokane Wash—p 136
Report of Radium Cases of Head and Neck A C Jones Boise Idaho—p 140
Indications and Contraindications for Tonsillectomy from an Internist's Point of View K Winslow Seattle—p 143
Teeth and Tonsils as Source of Disease F St Sure Colfax Wash—p 146
Dental Infections from Medical Point of View C H Sprague Pocatello Idaho—p 150
Pupil in Health and Disease H W Wurdemann Seattle—p 154

Southwestern Medicine, Phoenix, Ariz

May 1922 **6** No 5

Relation of Chemical Research to Medicine H A Miller Clovis N M—p 175
Why? W Smith, Phoenix Ariz—p 177
Acute Intestinal Intoxications in Infancy and Early Childhood J W Rawlings and H Leigh El Paso Tex—p 180
Common Infections of Kidneys R V Day Los Angeles—p 185
Practical Application of Tests of Vestibular Apparatus S A and F P Schuster, El Paso Tex—p 190
Case of Leprosy A Wallace Nogales Ariz—p 193
Action of Radiation on Tonsillar and Hypertrophied Lymphoid Tissues A Soiland Los Angeles—p 196
New and Advanced Surgical Treatment of Breast Cancer J F Percy San Diego Calif—p 198
Is Diagnosis of Neurasthenia Ever Justifiable? M K Wylder Albuquerque N M—p 206
Phenol Petrolatum Treatment for Tuberculosis S S Warren Deming N M—p 207
Advance in Diagnosis and Treatment of Diseases of Biliary Tract F D Garrett El Paso Texas—p 212

U S Naval Medical Bulletin, Washington, D C

May 1922 **16** No 5

Endocrine Glands M Kojima—p 821
Aviation Medicine in United States Navy J F Neuberger—p 834
Pyelonephritis Critical Review of One Hundred Cases O C Foote—p 844
Recurrent Hernia L W Johnson—p 849
Meningococcus Septicemia W A Bloedorn—p 855
Peter St Medard Surgeon in Navy of United States 1756 1822 W M Kerr—p 867
Study of Medicine in Strassburg J S Taylor—p 874
Report of Case of Shark Bite C R Baker—p 881
Practical Treatment of Acute Ulcerative Gingivitis C F Wells—p 883

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

May 13 1922 No 3202

Humoral Syndrome of Gout A Chauffard—p 745
Pyelography F Kidd—p 748
Influence of Industrial Employment on General Health Major Greenwood—p 752
*Aneurysms of Thoracic Aorta Involving Lung J Fanning—p 758
Radical Cure of Hemorrhoids Modified Whitehead Operation Sir J O Conor—p 759

Aneurysm of Thoracic Aorta—In the two cases of aneurysm of the thoracic aorta described by Fanning, both aneurysms ruptured within a fortnight of each other while the patients were under observation in the hospital, and in each case the aneurysmal sac produced extensive changes in the lung The second case was particularly interesting in its close simulation of chronic pulmonary tuberculosis

May 20 1922 **1**, No 3203

*Symptomless Hematuria A H Burgess—p 787
*Pernicious Vomiting of Pregnancy C Oldfield—p 789
Some Common Defects of Diet and Their Pathologic Significance E Mellanby—p 790
*Calcium Deficiencies Their Treatment by Parathyroid W R Grove and H W C Vines—p 791
Cardiac Disease and Occupation R O Moon—p 795
Further Researches on Detoxicated Vaccines D Thomson and R. Thomson—p 796
Strangulated Direct Inguinal Hernia E E Hughes—p 798

Symptomless Hematuria—Of 100 cases of symptomless hematuria investigated by Burgess the hematuria was of vesical origin in 65 cases, villous papilloma, 41 cases; malignant growth 18 cases, enlargement of prostate 3 cases, ulceration from suture left after colporrhaphy, simple "solitary" or "mucous" ulcer calculus fixed in postprostatic pouch, one case each The hematuria was of renal origin in 35 cases bleeding not seen at the time of examination, cause unknown, 14 cases, malignant growths (including hypernephroma) 9 cases, papilloma of the renal pelvis, 2 cases, angioma of renal papilla, 1 case, renal calculus, 3 cases congenital cystic disease, 1 case, chronic nephritis, with small cysts 1 case, mobile kidney, 2 cases, "essential" hematuria 2 cases Burgess emphasizes the great importance when called to a case of symptomless hematuria, of treating the patient rather than the hemorrhage, and of not attempting to arrest the bleeding until, by means of cystoscopy, it has been traced to its source

Treatment of Vomiting of Pregnancy—Oldfield claims that vomiting of pregnancy can be cured quickly, as a rule, and with a high degree of certainty by the removal of the patient to a hospital or nursing home and by feeding on ordinary diet Induction of abortion is seldom or never necessary The so-called toxemic cases are usually, if not always, a later stage of neurotic vomiting

Parathyroid Treatment of Calcium Deficiencies—*Though* the cases described by Grove and Vines are representative of a variety of conditions they were all due to some chronic toxic state, and all had a deficiency in the ionic calcium of the serum due, perhaps, to a combination of calcium and toxin In the majority of cases it was possible to find a primary septic focus, and sometimes the administration of parathyroid caused a hidden focus to become apparent by increasing the leukocytic reaction to the attacking organism An examination of the literature tends to establish the proposition that the parathyroid glands have a double function first, a regulation of calcium metabolism, and secondly, the power to render a certain toxic substance harmless Further, it may be noted that in animals whose parathyroid function has been interfered with, either by removal or ligation of the glands, if tetany does not supervene shortly and so cause death, there is a very strong tendency for the animals to die from an infective process It is possible that the continued absorption of toxic substances from some primary septic focus may eventually lead to partial parathyroid insufficiency and a disturbance of calcium metabolism

These two conditions will cause a decrease in the resistance of the tissues, so that they are rendered more liable to a secondary septic process The locality of the latter lesion will depend on local conditions of nutrition, blood supply and so forth

Edinburgh Medical Journal

May 1922 **28**, No 5

Gonorrheal Rheumatism, New Method of Treatment with Colloidal Silver and Vaccines A O Ross—p 185
Unsolved Physiologic Problems in Gynecology and Obstetrics R W Johnstone—p 198
*Complement Fixation Reaction in Tuberculosis A N Smith—p 212

Complement Fixation Reaction in Tuberculosis—The position as regards the value of the complement fixation test as a diagnostic procedure in tuberculosis is summed up by Smith as follows In a clinically suspicious case, when the Wassermann is negative, a positive complement fixation reaction is strong presumptive evidence of tuberculosis In a clinically tuberculous patient a positive reaction denotes activity of the lesion Repeated negative reactions may be taken to indicate either the absence of tuberculosis or that a lesion previously active has become inactive A single negative is of little or no value in a clinically suspicious case The reaction may be negative in far advanced cases in which death is imminent A positive reaction is most likely to be found when the presence of tubercle bacilli in the sputum, or the clinical signs and symptoms render the test unnecessary for diagnosis Nonspecific fixations may occur, notably when the serum gives a positive Wassermann reaction The intensity of the reaction seems to bear no relation to the patient's power of resistance or to the degree of severity of the infection

Lancet, London

May 20 1922 **1**, No 5151

*Role of Three Types of Tubercle Bacilli in Human and Animal Tuberculosis L Cobbett—p 979
*Case of Intermittent Complete Heart Block S Russell Wells and H W Wiltshire—p 984
*Eight Examples of Bundle Branch Lesion in Heart L F Bishop—p 987
Cardiospasm G L Scott—p 988
*Method of Treating Abscesses T H Kellock—p 990
Case of Latent Intracranial Abscess M Vlasto and S A Owen—p 992
*Neuritis Produced by a Wrist Watch J S B Stopford—p 993
*Case of Giant Urticaria Treated by Autogenous Streptococcus Vaccine W E M Armstrong—p 994
Colloidal Antimony in Leishmania Infantum R Smut—p 995
Case of Acute Ascariasis C R Corfield—p 995

Rôle of Human and Bovine Types of Tubercle Bacilli—The role of human and bovine types of tubercle bacilli in various kinds of human tuberculosis in England and other countries was investigated by Corbett and he found that in the pulmonary and bronchial gland cases the proportion of bovine infections is negligible—little more than 1 per cent in primary pulmonary tuberculosis, and in bronchial gland tuberculosis out of seventeen cases examined only one yielded bovine bacilli—a case with no visible tuberculosis in these glands or elsewhere In the group, including abdominal tuberculosis and tuberculosis of cervical glands, the proportion of infections with tubercle bacilli of bovine type is much higher —in round numbers, 50 per cent at all ages From these facts several inferences are drawn by Corbett The frequent occurrence of bovine tubercle bacilli in cervical glands and their rarity in bronchial glands is strongly opposed to the view that tubercle bacillus tracks downward from gland to gland extending in this way from the neck to the thorax and so to the lungs In order to hold this view it would have to be assumed that only tubercle bacilli of human type can track in this way Again, the fact that bovine tubercle bacilli are so frequent in mesenteric glands and so rare in the lungs is in opposition to Calmette's view that pulmonary tuberculosis is commonly caused by tubercle bacilli, absorbed through the intestinal mucous membrane, and carried by the thoracic duct and the innominate vein to the right side of the heart, and so to the lungs If this were the common channel of infection one would expect to find the same proportion of bovine infections in pulmonary as in abdominal tuberculosis Lastly, the fact that bovine tubercle bacilli have frequently been found in abdominal and cervical tuberculosis (that is, in cases arising from infection through some part of the alimentary canal) and seldom in the lungs, is easily explained on the ground that human tubercle bacilli alone are sprayed into the air, therefore alone have a chance of entering the lungs directly, while bovine tubercle bacilli, being limited to food substances, can only infect man through the alimentary canal The inhalation theory of the origin of pulmonary tuberculosis thus receives strong support In cases of general tuberculosis, meningitis, tuberculosis of bones and joints, and genito-urinary tuberculosis, the proportion of cases in which bovine bacilli have been found is nearly the same Probably both aerial and food infections contribute to this group in the same proportion as they occur in the form of primary infections Twenty per cent of bovine infections may, therefore seem high for these blood borne infections, but the majority of these cases occur in early life when infections through the abdominal route with its large proportion of bovine bacilli are far commoner than they are later In lupus the proportion of bovine infections was 50 per cent of the deaths attributed to tuberculosis of all kinds, about 6 5 per cent are attributable to bovine bacilli, and therefore to infection coming from the cow, probably in the immense majority of cases through milk

Intermittent Complete Heart Block—The case recorded by Wells and Wiltshire shows how remarkably chronic and latent and infective nonsyphilitic endocarditis can be During the twelve years the patient was under frequent observation sometimes with complete block, sometimes free from block, he was never actually found to be in the transitional stage of partial block Considerable variation in the pulse rate was found at different times but irregularity was never noted subsequent to the occasion when he first sought medical advice about his heart thirteen years before death Further, the ventricular rates observed at times when complete block was present are noteworthy Two electrocardiograms taken in 1915 show ventricular rates of 51 and 49 per minute, respectively with complete block In 1920, after auricular fibrillation had set in three electrocardiograms show ventricular rates of 60 per minute, although the perfect regularity of the ventricle proves that all impulses from the auricle were completely blocked, and the clinical records at this time show that an average ventricular rate of 73 per minute was maintained for three weeks, a maximum of 88 being attained on three occasions These rates are so high for an idioventricular rhythm that they compel speculation concerning the site of origin of the stimuli to which the ventricle was responding It was conjectured, during life that the lesion must have produced functional section of the conducting tissues across the A-V node, leaving sufficient intact nodal tissue below it to serve as the pacemaker to the ventricle Postmortem the changes in the conducting tissues were found to be diffuse, and no particular level can be selected as the most severely affected The A-V node and bundle lying as they did quite at the periphery of the main septal inflammatory focus, have suffered very much less than the tissue immediately subjacent to them Their conducting function must have been interfered with in two ways—namely, (1) by transmitted pressure due to inflammatory tension in the underlying focus, and (2) by direct implication in the inflammatory process Of these two factors the authors think that transmitted pressure was the more important in producing the clinical events of the case

Bundle Branch Lesions—From about 500 consecutive patients a frequency of 1 6 per cent is given by Bishop for this lesion Some patients had a very definite history of severe attacks of pain, lasting several hours, followed by gradual recovery, in others the onset of pain did not appear so clearly in the history The records of these eight people fall into two groups In the first group of four cases the records show the typical characteristics necessary to diagnose a disease of one bundle branch which completely destroys the function The *R* waves or *S* waves are large and wide and show notches, and the *T* waves are large and

downward in Lead 1 The four remaining records are not so typical of this condition However, they all show marked abnormality in the notching or in the width of the *R* waves so that the lesion must be considered a serious one, if not complete The four patients with typical records complained of severe pain over the heart, and also showed greatly increased blood pressure In the other four there was no increase in blood pressure of any extent, and there was a history of pain in only one person The orthodiagrams of the hearts of those with typical records all revealed markedly enlarged hearts of the aortic type Only two of the patients with less typical histories showed this enlargement, the other two having enlarged hearts of the vertical type There was no uniformity in duration of disease, one man having a normal tracing two and a half years prior to the appearance of a typical bundle branch lesion Dyspnea and precordial pain were present in each record, the precordial pain being most marked in those with definite bundle branch tracings These attacks, which were intermittent, came on usually by exertion In one person it was the chief complaint which brought him for examination Only two of the typical bundle branch cases were bothered with cough—brought on, no doubt, by some congestion in the lungs The heart valves were not primarily involved in one half of the patients

Treatment of Abscess—The principle of the method advocated by Kellock is this The abscess is opened at its highest point, the cavity is at intervals filled to its utmost capacity from the bottom upward with an antiseptic fluid which remains partially distending it and continually soaking the walls until they are rendered sterile In streptococcus or staphylococcus infections Kellock prefers flavine 1 1,000 It is of little or no use in cases of *Bacillus coli* infection or against the tubercle bacillus The use of flavine should also be limited in time, it will be found to delay healing if kept in contact with normal tissues more than six or seven days When the interior of the cavity has been rendered comparatively sterile, and the injection of flavine has been discontinued, it may be advisable to make a puncture in the most dependent position, and put in a small drainage tube in order that the closing up of the cavity may be as rapid as possible In the case of cysts, such as hydroceles which are lined by a single layer of endothelium, a very brief application of an irritating fluid is sufficient, if a sufficient quantity of iodin solution or phenol be introduced and withdrawn again in ten minutes it will generally be found to have accomplished its object, the treatment, however, is very painful and a general anesthetic will be necessary A previous injection of a local anesthetic is not sufficient

Wrist Watch Neuritis—Two cases are recorded by Stopford in which neuritis was caused by the band of a wrist watch making pressure on the dorsal cutaneous branch of the ulnar nerve, on the dorsal surface of the styloid process of the ulna On discarding the wristlet the discomfort gradually disappeared

Vaccine Therapy of Urticaria—The urticaria in Armstrong's case was of ten years' duration and began after having eaten a dish of mushrooms Every four or five days a red rash appeared, rapidly reached a maximum degree of intensity and extent, and usually subsided almost completely within forty-eight hours of the first onset The rash was accompanied by a temperature which often rose as high as 102.5 F, and by a considerable amount of headache and general malaise The eruption followed no definite plan of distribution, but developed on any part of the face, body, or limbs A light blow or the exertion of pressure on any part of the patient's body produced an urticarial swelling of greater or less degree according to the amount of violence exerted The patient suffered from rheumatism and from sore throat The history suggested that an organism of streptococcal type might be the cause of the trouble A catheter specimen of urine was obtained when the patient was in the middle of an attack. From this a small badly staining short streptococcus was isolated This was grown with some difficulty aerobically on trypsin agar and a vaccine prepared Its use was followed by a complete cure

South African Medical Record, Cape Town

April 22 1922 20 No 8

*Syphilis and Mental Deficiency G J Key and A Pijper—p 142
Place of Disease in Nature R Drennan—p 149
*Case of Resection of Stomach R Daly—p 154
Anaphylaxis Following Subcutaneous Injection of Two Drops of Normal Horse Serum K Bremer—p 155
Puerperal Thrombophlebitis Case Treated by Ligation of Pelvic Veins Recovery J W G Phillips.—p 155
Psoriasis and Pregnancy S P Impey—p 156

Syphilis and Mental Deficiency—In 217 cases of amentia Key and Pijper have, by means of the Wassermann reaction, demonstrated the presence of syphilis in 120, or 55.2 per cent They have not been successful in observing any symptom, or group of symptoms common to the cases giving a positive reaction It is their opinion that the syphilitic virus cannot alone be responsible for the amentia in all these cases The chances are that some other predisposing cause is also present in most cases

Resection of Stomach for Cardiac Ulcer—Daly narrates the case of a woman, aged 39, who had been suffering from periodical attacks of pain in the region of the stomach for six years—sometimes followed by vomiting, which usually relieved the pain The attacks came on from half to an hour after eating The abdomen was opened and an ulcer found near the cardiac orifice of the stomach extending on the anterior surface from the lesser nearly to the greater curvature, and at the upper part also onto the posterior surface of the organ A sleeve resection was done, removing the whole of the affected parts joining the cut ends in the usual way and a gastro enterostomy performed distal to the anastomosis The patient made an uneventful recovery and has been able to eat without discomfort since the operation has put on weight, and has been confined of a healthy child

Bulletin de l'Academie de Médecine, Paris

May 9 1922 87 No 19

*Vaccine Therapy of Typhoid Bone Disease H Vincent—p 517
*Roentgen Epithelioma Cured by Diathermy H Bordier—p 526

Typhoid and Paratyphoid Osteopathies—Vincent has compiled thirty cases of this kind treated by vaccine therapy, and adds another convincing example of the remarkable efficacy of this treatment in certain cases His patient was a young woman who developed a series of abscesses during convalescence from what was supposed to be typhoid Various joints swelled, and there were foci of osteomyelitis in the fibula ulna and scapula and, finally, multiple foci of osteitis in the bones of the pelvis The intense pain from this had suggested psoitis, appendicitis or encapsulated peritonitis at first The blood agglutinated the paratyphoid B and under vaccine therapy the pains subsided in eight hours and all the symptoms from the osteitis rapidly disappeared, and with them those of mucomembranous enteritis The vaccine was not administered until the bone lesions had been under way for three months and the cachexia was extreme She was given four injections of vaccine in all, representing a total of 2.5 thousand millions of the bacilli Vincent advises inquiry for typhoid in all cases of bone lesions, and, if syphilis and tuberculosis can be excluded, he urges vaccine therapy without further ado Smears from the pus or secretions may disclose typhoid or paratyphoid bacilli, and vaccine therapy may prove an effectual adjuvant to surgical measures, and to specific treatment of concomitant syphilis His experimental research has demonstrated that while the blood after disease of the typhoid group may be strongly bactericidal and abound in antibodies, yet the bile and the urine are not bactericidal and do not contain ant bodies Hence the bacilli may lurk for years in the gallbladder, bladder or bone marrow and they may set up a focus of osteitis even many years later

Roentgen Cancer Cured by Diathermy—Bordier had charge of the roentgen tubes used at Lyons during the war, and in the course of nearly three years supervised 10,755 therapeutic applications of the rays Twenty epitheliomatous patches developed on his fingers, and the largest patch began to ulcerate and to pain after two or three years Amputation of the finger was advised, but he applied diathermy himself

with his other hand The severe pain was arrested immediately, and healing was complete in less than two months, and there has been no recurrence during the five or six months since

Bulletin Médical, Paris

April 29 1922 '36, No 18

Classification of Chronic Rheumatism Teissier and Mayet —p 335
The Nodosities of the Hand A Leri —p 337
Chronic Rheumatic Arthritis A Léri and Longjumeau —p 344
Thorium X in Chronic Rheumatism A Leri and M Thomas —p 348

Chronic Rheumatic Arthritis of the Hip-Joint—Leri and Longjumeau say that rheumatic arthritis of the hip-joint is frequently found at various ages, but especially in adolescence and adult age This knowledge will prevent many errors in diagnosis It is important to know how to examine the hip-joint, what movements are first modified, and what lesions can be detected from radiography Chronic rheumatic arthritis of the hip-joint as well as other varieties of chronic rheumatism has the same characteristics in young and old subjects It is frequently found in persons between 20 and 40 years, and thus it is erroneous to call it "morbus coxae senilis"

Bulletins de la Societe Médicale des Hôpitaux, Paris

April 28 1922 46, No 14

*Contraindications of Ouabain P Ribierre and R Giroux —p 643
Parkinsonian Symptoms from Concussion D E Paulian —p 648
Parkinsonism in Epidemic Encephalitis C I Urechia —p 651
Gastric Crises as Only Symptom of Tabes Urechia and Rusdea —p 655
*Suppurating Parotitis P Emile Weil —p 657
Progressive Myoclonus Epilepsy Desage —p 658
Syphilitic Diabetes F Rathery and Pernet —p 661
Consonance in Mouth of Intrathoracic Sounds A Ricaldoni —p 667
*Bronchiectasis in Adults S I de Jong and J Hutinel —p 675
Progressive Muscular Atrophy Souques and Alajouanine —p 691
*Ear and Brain Lesions in Fatal Measles M Renaud —p 693
*Compression of Pulmonary Artery C Laubry and D Routier —p 700
*Cancer of the Esophagus R Bensaude and P Hillemand —p 703
Spontaneous Rupture of Heart L Ramond et al —p 705
Serotherapy of Poliomyelitis R Debré —p 708

Indications for Ouabain—Ribierre reproduces some tracings which demonstrate that ouabain can be given to advantage even when there is high albuminuria and insufficiency of the kidneys, and even azotemia, if the ouabain is called for by insufficiency of the heart from lack of tone in the myocardium, especially of the left ventricle The drug has to be given tentatively and cautiously under these conditions, the subject in bed, and on a salt-poor diet He recalls that ouabain should not be given until after an interval of at least eight days after digitalis has been administered On the other hand, digitalis can follow the ouabain with favorable results, especially from the standpoint of the diuresis

Suppurating Parotitis—Weil extols the advantages of thread drainage Two silk threads are passed through the lobes of the parotid gland with a Reverdin needle The threads are drawn along each morning to start the flow of pus In one of the two cases a vaccine was made from the staphylococci on the threads

Consonance in the Mouth of Intrathoracic Sounds—Ricaldoni devotes eight pages to discussion of sounds heard in the mouth, synchronous with the pulse, or the second pulmonary sound heard at the mouth as plainly as in precordial auscultation

Bronchiectasis in Adults—De Jong and Hutinel remark that the diagnosis is almost impossible unless the sputum is collected in a graduated glass which will reveal its exceptional quantity The paroxysmal course is also instructive This has long been emphasized in bronchiectasis in children, as also the tendency to a spontaneous cure in the young In adults, bronchiectasia is generally mistaken for pulmonary tuberculosis In one case febrile hemoptysis and signs of a cavity seemed to render tuberculosis certain but during repose the symptoms subsided for a time and then returned The expectoration was like a vomica No benefit was derived from artificial pneumothorax nor an autogenous vaccine The bronchi had enlarged so generally that the parenchyma of the lung had been almost completely crowded out, and the aspect resembled that sometimes seen in still-born syphilitic children

Progressive Muscular Atrophy—The young man died eight months after the onset of the afebrile disease Inoculation of two rabbits and six guinea-pigs resulted in pseudoparetic amyotrophy, with tachycardia in one rabbit It developed six months after it had been inoculated with an emulsion of the cervical spinal cord from the clinical case

Fatal Measles—Renaud found ear and brain complications in several cases of fatal measles In three cases the grave ear disease found at necropsy had not been suspected during life In all the cases of fatal measles, the otitis was evidently entirely or partially responsible for the fatal outcome The otitis formed part of the clinical picture from the start, but *secondary purulent infection was responsible for its gravity* Grave measles is thus aggravated measles The pathology of the infectious diseases is changing from what it used to be Cleanliness, in the surgical sense of the word, usually wards off the secondary aggravation of measles, for example and the resulting disease is so mild that it does not fit the classical description of measles" On the other hand he adds, when secondary infection aggravates the case, the disease is too grave to fit the classical description

Compression of Pulmonary Artery—Laubry here reports a second case of insufficiency of the right ventricle from pressure on the pulmonary artery, in this case, from an aneurysm

Radium Treatment of Cancer of the Esophagus—A thread swallowed, always finds its way through the stenosis and into the stomach and bowel The sound containing the radium has two holes near the tip and the thread is passed through them The 6 meter thread thus serves as a guide and aid for the introduction of the radium

Journal de Médecine de Bordeaux

April 25 1922 94 No. 8

*Irradiation of Spleen in Tuberculosis P Mauriac —p 231
Four Cases of Othematoma L Verdelet and J Chavannaz —p 233
Paraffinoma H Lefevre A Bonnard and P Prechaud —p 234
Lipoma of the Stomach H Verger and C Massias —p 236
Technic of Duodenal Intubation L Damade —p 237

Irradiation of the Spleen in Treatment of Tuberculosis—Mauriac urges caution in irradiation of the spleen in treatment of tuberculosis, and says that many objections can be made to Manoukhin's assumption that leukocytolysis is a defensive reaction, and the fragility of leukocytes the therapeutic aim to be reached Complex phenomena occur in irradiation of the spleen, and research should be made on the modifications of the spleen and the blood during treatment Manoukhin considers only the effect produced on the leukocytes Mauriac says that, before treatment, the blood count and the fragility index of the corpuscles should be determined After each application the blood should be examined by the differential count, merely counting the total leukocytes is not very instructive A patient with abnormally fragile white corpuscles should not be subjected to induced leukolysis Scientific study should be made of the blood reactions, the effect on the red corpuscles and the leukocytes of various methods of irradiation of the spleen, bone marrow, and glands and their indications, as this new treatment of tuberculosis deserves to be considered from a scientific standpoint (The Manoukhin method was described further in these columns May 27, 1922, p 1671)

Lipoma of the Stomach—Verger and Massias report a case of submucous lipoma of the stomach, which they state is exceedingly rare, as they know of only seven cases of submucous lipoma of the stomach that have been previously published

Medecine, Paris

May 1922 3 No 8

How to Determine Efficacy of a Remedy L Renon —p 565
*Pregnancy in Pulmonary Tuberculosis P Bar —p 569
*Sputum Examination F Bezançon —p 575
International Antituberculosis Union L Bernard —p 582
*Vaccine Therapy in Tuberculosis F Arloing —p 587
The Healing Process in Tuberculous Lungs Jaquerod —p 593
*Tuberculosis in the Dog and the Cat G Petit —p 598
Work and Exercise in Treatment of Tuberculosis L. Guinard —p 603
*Serodiagnosis of Tuberculosis L Guinard and C Botkine —p 606
Tuberculosis Dispensaries in France G Poix —p 611

Bacillary Pneumonia F Gérardel—p 616
Transformations of Tubercle Bacilli A Vaudremer—p 622
Treatment of Asthma P Minvielle—p 627

Pregnancy Complicating Pulmonary Tuberculosis—Bar places great reliance on a lively reaction to tuberculin early in the pregnancy as a sign that the woman has resisting powers enough to stand the strain of childbirth If the reaction is weak, he interrupts the pregnancy before the close of the fourth month, preferably by hysterectomy, unless the woman is young and there is hope of recovery In his extensive experience he has induced abortion only in nine cases in the last fifteen years One patient died three years later, but the others regained their health and three have had normal pregnancies since Hysterectomy in fifteen cases was always followed by marked improvement, and only one in this group died a few months later The dire effects of involution of the uterus can be obviated by hysterectomy at term This gave good results in the one case managed in this way

Sputum Examination—How to avoid being misled by secondary infection is the subject discussed by Bezançon The sputum should be fresh, not more than two or four hours old He stirs the sputum around in physiologic saline in a Petri dish until no more bubbles form, rinsing through two to four dishes is generally enough Two smears are made with the sputum and one is stained with the Gram the other with the Ziehl-Nielsen In 23 of 29 cases thus examined nothing but tubercle bacilli were found, and they were thus responsible for the hectic fever Pneumococci were numerous in most of the 6 other cases, and they probably were responsible for the flaring up of the latent tuberculosis

Vaccine Prophylaxis and Therapy of Tuberculosis—Arloing relates that the S Arloing method of preventive vaccination of cattle has proved a practical, harmless and certain method of protecting cattle against tuberculosis in from 75 to 80 per cent The protection conferred lasts from fifteen to eighteen months, at this time the vaccination should be repeated Maraghano's preventive vaccination of human beings has now been applied for twenty years and has proved harmless and effectual He has a record now of 3 702 persons thus vaccinated children and adults, in tuberculous families Of 1,893 traced for ten years only eleven have developed tuberculosis Agglutination the opsonins precipitins etc acquire all the characteristics of immunity The Rappin method has been applied to man and cattle since 1917 Dried and crushed human tubercle bacilli are emulsified for seven days in a 3 per cent solution of sodium fluorid then rinsed and added to a very active antituberculosis serum In three days this serovaccine is ready In 400 guinea-pigs with grave tuberculous infection, this serovaccine aborted the disease, the manifestations being restricted to the local gland, and the process did not reach the cheesy stage Children and adults vaccinated with it by scarifications seem to be protected against the disease and local and general improvement has followed its use with established infection Professor Rappin has been studying vaccine therapy of tuberculosis for twenty years at the Pasteur Institute at Nantes

Tuberculosis in the Dog and the Cat—From 10 to 15 per cent of the cats and dogs examined postmortem by Petit showed tuberculous lesions analogous to those in man These animals acquire tuberculosis readily from man and are liable to prove sources of contagion

The Complement Fixation Test for Tuberculosis—Guinard and Botkine have compiled 2 513 instances of serodiagnosis in absolutely certain cases of pulmonary tuberculosis, with positive fixation of complement in only 84 27 per cent The proportion is still less with other forms of tuberculosis 66 per cent in tuberculous peritonitis, 33 46 and 50 per cent in serofibrinous pleurisy 70 per cent with active bone and joint lesions, and 23 per cent with inactive In 530 personally observed cases, the reaction was negative in from 7 89 per cent to 16 66 per cent in the groups of active tuberculosis and in 67 56 per cent of the healed cases while it was positive in 67 35 of 98 others who seemed to be free from tuberculosis Parallel tests were made with Besredka's egg culture antigen, Calmette's peptone antigen, and Negre and Boquet's methyl alcohol antigen

Pleomorphism of Tubercle Bacilli—Vaudremer presents evidence that the resistance to acids of the tubercle bacillus is an acquired property, as tubercle bacilli cultures grown deep in potato bouillon are not acid resistant and they pass through the Chamberland filter They are pathogenic and are agglutinated by tuberculous serum Resown on glycerined potato they return to the classic, acid resistant type They present evidence further that the production of tuberculin is not a constant phenomenon, but occurs only when the medium contains albuminoid substances Both acid resistance and tuberculin production can be done away with by macerating the tubercle bacilli in an extract of *Aspergillus fumigatus* or of *Penicillium glaucum* They can then be taken up by the phagocytes without killing the latter

Paris Medical

April 22 1922 **12**, No 16

Examination of Insane Subject J Levy Valensi—p 329
Tracheofistulization G Rosenthal—p 334
Vocational Training of Disabled Veterans C Rœderer—p 339

Tracheofistulization—Rosenthal's method of introducing a fine cannula through the skin into the trachea has recently won him the Bellion prize at the Academie des Sciences The cannula is so small that there is no mutilation, while it allows direct medication of the lower air passages with fluids or gas or an antiserum It can also be used for introducing oxygen and to supplement other measures in resuscitating the drowned He says that the procedure is extremely simple, does not elicit reflex action and is borne with absolute tolerance while it answers its purpose perfectly He adds that the use of gaseous nontoxic antiseptics is a promising field just opening

Presse Medicale, Paris

May 3 1922 **30**, No 35

*Obstruction of Cystic Duct C Daniel and A Babes—p 377
Treatment of Pott's Disease E Sorrel—p 378

The Gallbladder with Obstructed Outlet—Daniel and Babes found profuse mucous secretion in the gallbladder with a calculus plugging the cystic duct There was no trace of bile The catarrhal inflammation of the gallbladder probably yields to sclerosis at a later stage

Pott's Disease—Sorrel is surgeon in chief at the Berck seashore hospital, and his extensive experience teaches that children with vertebral caries should always be kept horizontal They can lie on the back with a pad to raise the lumbar region or they can lie prone when the lesion is in the lumbar region In the dorsal region a corset must be worn besides He has the corset strapped to the light spring on which the child lies, and with which it is moved about With the lesion in the neck a minerva has to be applied This treatment should be kept up until the anatomic cure is complete This anatomic cure, the soldering together of the diseased vertebrae requires at least three years from the beginning of the disease and as it is impossible to determine this with precision extreme caution is necessary when the child is allowed to get up A plaster corset should be worn for a time and a celluloid or leather corset for years afterward A spontaneous cure is almost invariable in children but is very rare in adults Reclining during the active stage is as important for adults as for children but after the acute phase is past operative means to insure ankylosis is a valuable aid Before this, it is dangerous

May 6 1922 **30** No 36

*Colloidoclasis and the Endocrine Glands F Widal P Abrami and L de Gennes—p 385
Radicular Distribution of Nevus and Vitiligo M Klippel and M P Weil—p 388
Present Status of Iron in Therapeutics L Cheinisse—p 390

Colloidoclasis and the Endocrine Glands—Widal and his co-workers report a further instructive example of instability of the colloids and treatment of this colloidoclastic diathesis The asthma was traced to ovarian disturbance followed by thyroid malfunctioning and on the basis of this endocrine derangement an anaphylaxis to various substances especially

chronic leukemia were seen in the hospitals of Lisbon They were all given systematic treatment with benzene (benzol) The benefit equaled and in some instances surpassed that of radiotherapy The effectual daily dose seemed to be 150 drops, as a rule If no improvement is apparent when this dose is progressively reached, it is useless and dangerous to continue this treatment A permanent cure was never realized with it The blood count warns when a recurrence is impending The benzene is more effectual in the granulocytic forms than in the lymphocytic, and in the chronic than in the acute

Semana Medica, Buenos Aires

April 6 1922, **1** No 14

Myeloid Leukemia I Allende—p 533
Ileus from Tuberculous Peritonitis A G Gallo—p 541
Diathermy for Chronic Urethritis Martin Mackintosh—p 552
Importance of Proper Classifying of Abnormal Delinquent and Abandoned Children L. Crampi—p 558

Ileus from Tuberculous Peritonitis—Gallo gives details of 12 cases, all adults except 2 girls of 15, both of whom died, as also one young man In the others the obstruction in the intestines yielded to medical or surgical measures One had several attacks of obstruction The obstruction was mechanical in 4 from retraction of the fibrous mesentery In 4 cases paralysis of the bowel was responsible for the ileus In this paralytic form, operative measures are useless and do harm There is less pain than with mechanical ileus, and no peristalsis, and auscultation is negative After recovery from the ileus, in several the peritonitis improved under heliotherapy, etc In one little girl several loops of intestines were found welded together, and the aspect suggested tuberculous peritonitis until the discovery of a ruptured ovarian abscess Complete recovery followed

Electrode for Diathermy in Chronic Urethritis—As the electric current always follows the shortest path between the two electrodes, it is difficult to insure an even action throughout the entire length of the urethra Mackintosh gives illustrations of the device which he has been using for two years with constant satisfaction A large plate slips under the sacrum, another lies on the pubis, both strapped to the table, and a standard in the crotch connects both the whole forming the negative electrode There is no narrow path between the electrodes but a broad field for the current to spread on all sides from the positive electrode in the urethra The heat can be graduated from 43 to 45 C was found most effectual, the sittings from one half to an hour long, to a total of from ten to twenty

Archiv fur klinische Chirurgie, Berlin

April 27 1922 **119** No 3

Occult Spina Bifida A Hintze—p 409
*Plastic Operation on Pericardium H Klose—p 455
*Surgery of the Pericardium H Klose and H Strauss—p 467
*Pseudarthrosis E Lexer—p 520
*Regeneration of Tendons A Salomon—p 608

Occult Spina Bifida—Hintze summarizes the literature on this subject from Virchow, in 1875, to date and discusses the difference between the normal sacral fontanel and the pathologic spina bifida No traces of the lumbar sacral fontanel or skull fontanels were found in 150 skeletons of anthropoid apes examined, and nothing like human fontanels was found in a new-born chimpanzee He discusses further the findings in 400 human sacrums, and the roentgenograms of 700 others, and in cases of lumbosacral hypertrichosis and neuroparalytic disturbance of one or both legs, with or without bladder disturbances—all traceable to some anomaly in the lower spine

Plastic Operations on the Pericardium—Klose's experimental research in this line was described Jan 21, 1922, p 253 This article analyzes the healing process

Operative Treatment of Suppurative Pericarditis—Klose and Strauss tabulate from the literature 29 cases of suppurative pericarditis treated by puncture alone, all fatal but 4 27 treated by an intercostal incision, with recovery of 10, 37 treated by exposing the pericardium extensively, curing all but 16 of the 37 They describe the differential diagnosis, saying that it is difficult, and emphasizing the importance of clearing out the exudate from the pericardium at the earliest possible moment For this, the bony wall has to be resected and the pericardium has to be effectually rinsed out with physiologic saline and amply drained, as they describe If adhesions develop, a plastic operation with omentum or fat is justified, and they report a case of the kind in a man of 41 The mediastinopericarditis and pleural empyema had entailed extreme insufficiency of the heart, but the patient bore well the transplantation of a flap of fat to fill the gap left by the retraction of the pericardium after it had been incised The heart functioning progressively improved, evident especially in the diuresis The fourth day the man died suddenly As purulent pericarditis is often preceded by a nonsuppurating phase, this justifies early operative intervention when pyogenic bacteria are involved, even when the effusion is not purulent The diagnosis can be confirmed by exploratory puncture in the left rib-xiphoid angle Recovery has been observed in 10 4 per cent of the cases treated by multiple puncture, in 37 per cent after intercostal incision, and in 56 7 per cent after extensively opening up and draining the pericardium Treatment must aim to prevent adhesion The operation can be done under local anesthesia, treating the pericardium itself with a 10 per cent. solution of cocain The opening of the pericardium and change of dressing should be done under overpressure Pneumocardium can be warded off later with rubber tissue by E Rehn's method Intake of fluids should be restricted Chloral should be avoided The combination of surgical and conservative measures, heart stimulants, etc, will save many a patient who fifty years ago would certainly have died A bibliography of 230 titles is appended

Origin of Pseudarthrosis—Lexer ascribes great importance to the injury of the vessels at the time of the fracture or transplantation of bone

Restitution of Tendons—Salomon resected part of the Achilles tendon in dogs and a few cats and studied the regeneration process under various conditions The fact that regeneration occurred even when the corresponding muscle had been resected teaches that functional stimulation is not necessary for regeneration of a tendon In the dogs the gap in the muscle grew up with tendon tissue Regeneration of a tendon cannot proceed from muscle alone During the first phase of regeneration, functional stimulation is futile or directly injurious, but during the second stage of the regeneration it is a factor of constantly increasing importance for perfect regeneration in man and animals

Beitrage zur klinischen Chirurgie, Tubingen

1922 **125** No 2

*Technic for Goiter Operations H Schloffer—p 249
Mediastinotomy with Aneurysm of Arch of Aorta N Guleke—p 270
Research on Disinfection of Wounds Brunner and v Gonzenbach—p 277
*Suprarenalectomy in Epilepsy O Specht—p 347
Congenital Stenosis Mistaken for Hypertrophied Prostate. G Duttmann—p 368
*Bacteria Content of Bile Passages K Scheele—p 377
*Action of Cells Destroyed by Radiotherapy W Muller—p 414
Acute Glanders in War Prisoner A Lessing—p 433
*Reconstruction of Palate H Biedermann—p 444
Differential Diagnosis of Saliva C Boss—p 451
Surgical Treatment of Mercuric [illegible]ey H Klose—p 459
Hemorrhagic Cystic Suprarenal T [illegible]asch—p 467
Operative Evacuation of I [illegible]Bott—p 476

Goiter Operations—Schlo[illegible] in particular the technic when the patient is [illegible]d by the goiter Sometimes the most benign [illegible] to induce suffocation from various reasons [illegible]ith instructive examples

Suprarenalectomy in Epi[illegible] [illegible]des from his experimental research that [illegible] for Supr[illegible] renalectomy in treatment of

Bacteriology of Bile [illegible]teria the g[illegible]nd bile duc[illegible] gal bladd[illegible] This has [illegible]ut quest[illegible]

[illegible] Roent[illegible] ascribes [illegible]otem[illegible] effect ha[illegible]tgen tr[illegible]

rose pollen, developed, entailing asthma It began at puberty Treatment was begun after twenty-six years and the effect of thyroid treatment and of desensitization has been most remarkable The symptoms can be banished and brought on again at will by treatment and by suspension of treatment

Progres Medical, Paris

April 22 1922 37, No 16

Pepsin in Gastric Juice M Loeper and J Baumann —p 181
Variations of Pepsinemia with Stomach Affections Loeper et al —p 181
*Psychanalysis in Treatment of Tic C Trepsat —p 182
Experimental Subcutaneous and Intravenous Injections of Benzoic Acid and Guaiacol in Man and Animals L. Menciere —p 184
Evolution and Treatment of Infantile Paralysis Nobecourt —p 185

Psychanalysis in Treatment of Tic—Trepsat reports the complete cure in a few days with Freud's method, of a man of 27 with an intense tic of remarkable frequency—a spasm of almost the entire body He says that the sentimental complex which is the origin of the tic should be looked for 'A tic, at the onset is always an indication of suppressed impulses" We must look for vasomotor and secretory disturbances also, inducing motor disturbances The will and especially the motor functions should be reeducated, and psychanalysis is the best method to use for the purpose Trepsat regrets the diffusion given today to this principle and method, as he believes that psychanalysis should be applied without the patient's knowledge, and remarks in conclusion 'We should always bear this therapeutic procedure in mind, use it sometimes, and never speak of it"

Revue Franç de Gynecologie et d'Obstet, Paris

April 1922 17 No 4

Present Status of Puerperal Cholecystitis A Laurentie —p 193
*Pituitary Extract in Obstetrics J Audebert —p 257

Cumulative Action of Pituitary Extract—Audebert reports a case of *accouchement en avalanche* tearing the anterior commissure of the vulva, after a second injection of pituitary extract an hour after the first The tempest of contractions, induced by the cumulative action, cast off the placenta prematurely, and tore the fetal membranes, and most of them were retained but were gradually expelled later There were also severe cramps in the uterus for some time afterward It is the only disagreeable experience he has had in the 100 cases in which he has given pituitary treatment, and he thinks that it might be better to heed Pouliot's advice to wait for two hours before giving a second injection

Pediatria, Naples

March 1 1922 30, No 9

*Splenic Anemia in Children S de Stefano —p 385
*Hemoclastic Crisis in Children M Misasi and G Aiello —p 408

Splenic Anemia in Children—De Stefano gives the details of 13 cases in which there was inherited syphilis, and 6 in which there was a history of both syphilis and tuberculosis in the family These inherited taints entail dystrophia of the blood-producing system, and this is responsible for the splenic anemia, and explains the inefficacy of specific treatment It also explains the development of the splenic anemia in older children as some superposed occasional factor aggravates the abnormal condition In 2 of these cases tuberculosis alone could be incriminated, and in 2 others no special cause could be detected There was irregular fever in 19 of the total 23 cases, but it was never so severe or characteristic as in the splenic anemia of leishmaniasis, kala azar in which there may be two attacks during the day

The Hemoclastic Crisis in Children—Misasi and Aiello confirm that leukopenia after ingestion of milk is a physiologic phenomenon in children under 10 The drop in the leukocyte count is more pronounced, the younger the child With digestive derangement in infants and with congenital syphilis, leukocytosis may be observed instead With signs of liver disease, the leukopenia was often intense The research was done on 6 normal children, 9 with dyspepsia, 4 with insufficiency of the liver, and 2 other sick children

Policlinico, Rome

April 24 1922 29, No 17

*Protein Products in Spinal Fluid G Aiello —p 537
Tendon Sheath Cysts and Tuberculosis G B Antongiovanni —p 541
Suppurating Gonococcus Arthritis M Basilio —p 544
Colloidal Metals in Treatment of Cancer G Carisi —p 547
Prophylaxis of Malaria M Gioseffi —p 549

Products of Disintegration of Protein in the Cerebrospinal Fluid—Aiello tested the lumbar puncture fluid for tryptophan and tyrosin The response was negative in all except in a case of disseminated sclerosis and in nine cases of tuberculous meningitis The reaction to both tryptophan and tyrosin was strongly positive in this latter group

Rivista Critica di Clinica Medica, Florence

Feb 15 1922 23 No 7

Study of Gastric Functioning V Scimone —p 49 Conc n No. 6

Study of Gastric Functioning—Scimone used the Gross' duodenal tube for his research, and gives the minute details in forty-two patients with various diseases

March 5 1922 23 No 7

*Barany's Pointing Test P Bastai —p 73 Conc n No 8 p 85
Monosymptomatic Glandular Dystrophia D Campanacci —p 79 Conc n No 8 p 92

Bárány's Pointing Test—The case reported by Bastai testifies that certain symptoms supposed to be characteristic of cerebellar disturbance alone may be encountered with injury of the zone of Rolando There was severe jacksonian epilepsy of the left side, of traumatic origin The past pointing tests gave a crossed response With cerebellar lesions it is usually homolateral The literature on cortical and cerebellar symptoms is reviewed in connection with this case

Archivos Españoles de Pediatría, Madrid

March 1922 6 No 3

Epidemic Encephalitis and Chorea in Children G Araoz Alfaro —p 129
Hypernephroma in Boy of 7 V Juaristi and D Arroza —p 142
*Tolerance of Child for Epinephrin Blanco Soler —p 146

Tolerance of Child for Epinephrin—The father of the child had Addison's disease, and took epinephrin regularly before meals and gave some to his little daughter The child at 4 had been taking from 12 to 15 drops twice a day for over two years The child seemed normal in every respect except that the blood pressure was a trifle above normal The case seems to teach that epinephrin by the mouth has little action at least in children although the father apparently benefited constantly from the medication

Brazil-Medico, Rio de Janeiro

April 1 1922 1 No 13

Treatment of Epilepsy Renato de Souza Lopes —p 151
Toxicity of Chenopodium Areobaldo Lellis —p 157
General Versus Local Anesthesia J Jungbluth —p 159

April 8 1922 1 No 14

*Research on Typhoid Marques Lisboa —p 171
Surgery in France 1920 1921 Guelfucci —p 173

Research on Typhoid—Marquez Lisboa reports another series of instances of intentional ingestion of typhoid or paratyphoid A or B bacilli by three adult volunteers None has shown the least sign of infection during the months since the same as in his first series He compares with these seventeen clinical experiments with cultures from the blood, the absence of infection in a number of cases of laboratory accidents in which bacilli of this group were inoculated, without infection developing He argues that hog cholera and cattle plague form with typhoid a group of diseases characterized by septicemia, involvement of lymphatics tendency to foci of pneumonia, etc, similar lesions being encountered in man in cattle, in the horse the dog the hog etc He is convinced that the day is coming when a filtrable virus will be accepted as the causal agent of this group

Medicina Contemporanea, Lisbon

Dec 25 1921 39 No 52

*Benzene in Treatment of Leukemia J J Martins Pereira.—p 411

Benzene in Treatment of Leukemia—Martins Pereira relates that during a recent six months' period only eight cases of

chronic leukemia were seen in the hospitals of Lisbon They were all given systematic treatment with benzene (benzol) The benefit equaled and in some instances surpassed that of radiotherapy The effectual daily dose seemed to be 150 drops, as a rule *If no improvement is apparent when this* dose is progressively reached, it is useless and dangerous to continue this treatment A permanent cure was never realized with it The blood count warns when a recurrence is impending The benzene is more effectual in the granulocytic forms than in the lymphocytic, and in the chronic than in the acute

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Occult Spina Bifida—Hintze summarizes the literature on this subject from Virchow, in 1875 to date and discusses the difference between the normal sacral fontanel and the pathologic spina bifida No traces of the lumbar sacral fontanel or skull fontanels were found in 150 skeletons of anthropoid apes examined, and nothing like human fontanels was found in a new-born chimpanzee He discusses further the findings in 400 human sacrums, and the roentgenograms of 700 others and in cases of lumbosacral hypertrichosis and neuroparalytic disturbance of one or both legs with or without bladder disturbances—all traceable to some anomaly in the lower spine

Plastic Operations on the Pericardium—Klose's experimental research in this line was described, Jan 21 1922, p 253 This article analyzes the healing process

Operative Treatment of Suppurative Pericarditis—Klose and Strauss tabulate from the literature 29 cases of suppurative pericarditis treated by puncture alone, all fatal but 4 27 treated by an intercostal incision, with recovery of 10 37 treated by exposing the pericardium extensively, curing all but 16 of the 37 They describe the differential diagnosis saying that it is difficult, and emphasizing *the importance of* clearing out the exudate from the pericardium at the earliest possible moment For this, the bony wall has to be resected and the pericardium has to be effectually rinsed out with physiologic saline and amply drained, as they describe If adhesions develop a plastic operation with omentum or fat is justified and they report a case of the kind in a man of 41 The mediastinopericarditis and pleural empyema had entailed extreme insufficiency of the heart, but the patient bore well the transplantation of a flap of fat to fill the gap left by the retraction of the pericardium after it had been incised The heart functioning progressively improved evident especially in the diuresis The fourth day the man died suddenly As purulent pericarditis is often preceded by a nonsuppurating phase this justifies early operative intervention when pyogenic bacteria are involved even when the effusion is not purulent The diagnosis can be confirmed by exploratory puncture in the left rib xiphoid angle Recovery has been observed in 10 4 per cent of the cases treated by multiple puncture, in 37 per cent after intercostal incision, and in 56 7 per cent after extensively opening up and draining the pericardium Treatment must aim to prevent adhesion The operation can be done under local anesthesia, treating the pericardium itself with a 10 per cent solution of cocain The opening of the pericardium and change of dressing should be done under overpressure Pneumocardium can be warded off later with rubber tissue by E Rehn's method Intake of fluids should be restricted Chloral should be avoided The combination of surgical and conservative measures, heart stimulants, etc, will save many a patient who fifty years ago would certainly have died A bibliography of 230 titles is appended

Origin of Pseudarthrosis—Lexer ascribes great importance to the injury of the vessels at the time of the fracture or transplantation of bone

Restitution of Tendons—Salomon resected part of the Achilles tendon in dogs and a few cats and studied the regeneration process under various conditions The fact that regeneration occurred even when the corresponding muscle had been resected teaches that functional stimulation is not necessary for regeneration of a tendon In the dogs, the gap in the muscle grew up with tendon tissue Regeneration of a tendon cannot proceed from muscle alone During the first phase of regeneration, functional stimulation is futile or directly injurious but during the second stage of the regeneration it is a factor of constantly increasing importance for perfect regeneration in man and animals

Beitrage zur klinischen Chirurgie, Tubingen

1922 **125**, No 2

*Technic for Goiter Operations H Schloffer—p 249
Media tinctomy with Aneurysm of Arch of Aorta N Guleke—p 270
Research on Disinfection of Wounds Brunner and v Gonzenbach—p 274
*Suprarenalectomy in Epilepsy O Specht—p 347
Congenital Stenosis Mistaken for Hypertrophied Prostate. G Duttmann—p 368
*Bacteria Content of Bile Passages K Scheele—p 377
Action of Cells Destroyed by Radiotherapy W Muller—p 414
Acute Glanders in War Prisoner A Lessing—p 433
*Reconstruction of Palate H Biedermann—p 444
Differential Diagnosis of Saliva Calculi W Boss—p 451
Surgical Treatment of Mercuric Chlorid Kidney H Klose—p 459
Hemorrhagic Cystic Suprarenal Tumor C H Lasch—p 467
Operative Evacuation of Intestine in Ileus H Bott—p 476

Goiter Operations—Schloffer discusses in particular the technic when the patient is being suffocated by the goiter Sometimes the most benign goiters may start to induce suffocation from various reasons as he explains with instructive examples

Suprarenalectomy in Epilepsy—Specht concludes from his experimental research that there is no justification for suprarenalectomy in treatment of epilepsy

Bacteriology of Bile Passages—Scheele found bacteria in the gallbladder and bile ducts in 63 per cent of his gallbladder operations This has a bearing on the suture question

Protein Shock After Roentgen-Ray Exposures—Müller ascribes to an actual protein shock action the disturbing effect liable to follow roentgen treatment The cells devital-

ized by the rays exert a shock action like that of parenteral protein therapy

Reconstruction of Palate—In the two cases illustrated, Biedermann reconstructed the palate after a destructive war wound by drawing through a hole in the cheek a long pedunculated flap twisted around from the side of the head and brow The defect on the head was covered with a flap of epidermis from the thigh The flap drawn into the mouth was doubled lengthwise so that epithelium faced toward the nose as well as toward the mouth The artery nourishing the flap was the temporal artery, and the flap was severed the tenth day

Deutsche medizinische Wochenschrift, Berlin

March 24 1922 48 No 12

*Serodiagnosis of Tuberculosis Lydia Rabinowitsch Kempner —p 379
Comparative Tests of Various Strains of Tubercle Bacilli W Dietrich —p 381
Stain Differentiation of False Tubercle Bacilli W Bender —p 381
Character of d'Herelle Bacteriophagum Otto and Winkler —p 383
A New Turbidity Reaction for Syphilis E Meinicke —p 384
Roentgen Irradiation of Cancer O Strauss —p 385 Conc n No 13 p 416
Treatment of Brain Abscess Boenninghaus —p 387
*Precipitation Velocity of Blood Corpuscles W Lohr —p 388
Insomnia A Hoche —p 389
Course in Dermatologic Technic H M Joseph —p 391

Reliable Serodiagnosis of Tuberculosis—Kempner confirms that in the extract of tubercle bacilli grown on an egg culture medium—Besredka's antigen—we have a means for certain and specific fixation of complement in the diagnosis of tuberculosis She gives the details of 275 of the 350 persons tested, including positive findings in 82 per cent of the 131 supposed tuberculous and only 3 5 per cent in fifty-seven supposedly healthy persons Repetitions of the test elicited the same response each time A positive reaction is almost invariably a sign of an active tuberculous focus but a negative reaction does not exclude a healed or latent focus She found further that the Sachs test elicited a positive reaction at the second hour in the tuberculous, but it had veered to negative by the eighteenth In the syphilitic, on the other hand the reaction was negative at the second hour but became positive by the eighteenth

Precipitation Velocity of Blood Corpuscles in the Diagnosis of Surgical Affections—Lohr found in a group of 100 uncomplicated fractures an increased rate of precipitation of blood corpuscles in all cases In the most severe fractures the increase was noted twelve hours after the accident at the earliest, but always after twenty-four hours In hundreds of other surgical cases it was observed that the rate of precipitation paralleled the size of the area affected by the inflammation or the amount of degeneration in a tumor This finding has practical diagnostic value in abdominal surgery, in order to form a judgment in regard to the size of the affected area especially in appendicitis for during the intervals in which the inflammation dies down there is no increase in the precipitation rate

Klinische Wochenschrift, Berlin

Feb 18 1922 1 No 8

Aims and Methods of Chemotherapeutic Antisepsis J Morgenroth —p 353
Blood Sugar in Addison's Disease Rosenow and Jaguttis —p 358
*Practical Import of Alimentary Hyperglycemia Curve Rosenberg —p 360
*The Atropin Test of the Pylorus F Otvos —p 362
Ulcerative Colitis M Einhorn (New York) —p 366
*Observations of Untreated Cases of Syphilis Spiethoff —p 367
The Grubal-Widal Test in Infancy P Groscr —p 370
Camphorated Oil by the Vein Urtel —p 371
Inhibition of Sodium Oleate Hemolysis by the Serum in Various Diseases Kahn and Potthoff —p 372
Researches on Intravital Hemolysis Bieling and Isaac —p 373
Researches on Tendon Reflexes H Schaffer —p 373
*Endocrine Glands in Mental Disease Fauser and Heddaeus —p 374
Note on Gonorrheal Affections of the Skin A Weill —p 374
Theory and Practice of Digitalis Treatment E Edens —p 376
*Mortality of Infants During the War Rott —p 381

Blood Sugar in Addison's Disease, Action of Epinephrin—Rosenow and Jaguttis refer to Porges' view that a reduction of blood sugar values, which he found in three patients with Addison's disease and also in animal experimentation after removal of the suprarenals, is a characteristic finding associated with the suspension of suprarenal functioning On the basis of a critical survey of the cases previously reported and researches on a patient, the writers conclude that hypoglycemia is not a constant symptom of Addison's disease The discrepancy in the reports of various authors is doubtless due to the fact that only one blood sugar test was made They find that in Addison patients as in normal persons, the blood sugar values fluctuate greatly from day to day Therefore before a given case of Addison's disease can be said to present low blood sugar values several tests (fasting) should be made on different days The intramuscular injection of epinephrin causes in an Addison patient a hyperglycemia, the maximum one hour after the injection The larger the quantity of epinephrin employed, the more marked is the hyperglycemia But whereas in a normal person, when large doses of epinephrin are used the blood sugar curve after reaching the maximal value quickly drops below the initial record, this secondary hypoglycemia is not recorded in the Addison patient After the injection of 2 mg of epinephrin the normal control excreted sugar in the urine, whereas the Addison patient presented no glycosuria

The Practical Importance of the Alimentary Hyperglycemia Curve—Rosenberg points out that examination of the blood and the urinary sugar following ingestion of 100 gm of glucose makes it possible to clear up many, though not all, obscure cases of glycosuria He has seen some cases in which even this test failed to discover the cause of the glycosuria which usually appeared only intermittently He recommends the method for the recognition of a latent diabetes, and in endosecretory affections for the discovery of disturbances of carbohydrate metabolism, which otherwise elude the investigator Following the ingestion of 100 gm of glucose in a normal person, the blood sugar reaches the apex in from one half to one hour, and after two hours the blood sugar has become normal or virtually normal In a diabetic the reaction is essentially different The blood sugar curve rises higher, the apex is not reached under an hour and a half and usually only after more than two hours In the urine of otherwise aglycosuric patients glycosuria appears There is a certain parallelism between the gravity of the diabetic disturbances of metabolism and the slope and duration of the blood sugar curve We are thus able to discover a threatening diabetes before glycosuria is regularly present, and by instituting appropriate therapeutic measures influence the course of the disease with greater chances of success

The Diagnostic Value of the Atropin Test Applied to the Pylorus—Otvos has found the atropin sulphate test of diagnostic value in internal medicine It is independent of the chemical reaction of the gastric juice A positive reaction usually points to organic disease, mainly to a hard duodenal or gastric ulcer The test will often establish the cause of peripyloric adhesions The test is more often positive with callous duodenal ulcer than in affections of the bile ducts, which usually present a characteristic syndrome In simple cholecystitis without adhesions the atropin reaction is usually negative In the presence of ptosis and atonia a positive atropin reaction has no diagnostic value While it is true that the atropin test does not furnish a direct diagnosis it has its place in the objective consideration of every case, and may be regarded as pointing to an 'indirect ulcer symptom"

The Course of Syphilis Without Treatment—Spiethoff states as the result of his observations on the strength of the Wassermann reaction in untreated cases of syphilis, that such experience is valuable in throwing light on the course of cases under treatment Also on many peculiar manifestations that arise during treatment for example the positive fluctuations in the strength of the Wassermann reaction and the sudden appearance of manifest clinical symptoms Such manifestations may be interpreted as provocation symptoms of treatment, as the expression of inadequate therapeutics as the result of a quantitative or qualitative error in the selection of a remedy or as evidence of a recurrent strain in a certain stage of development that rendered it immune to attack In observing untreated cases, the Wassermann test

should be applied frequently, at the same time that all other manifestations are carefully studied, for thus the therapeutist becomes familiar with the fundamental type of case

Histologic Researches on the Endosecretory Glands in Psychic Affections—In 25 patients with mental disease Fauser and Heddaeus examined the thyroid the suprarenals, the hypophysis the genital glands, and in some instances also the thymus and the epiphysis Seven patients belonged to the dementia praecox class, 12 were epileptics, 5 were imbeciles, and there was one case of senile dementia In the thyroids of such patients goitrous degeneration was frequent, other changes were occasioned by concomitant affections (tuberculosis) The suprarenals showed in part senile changes and in part finding due to tuberculosis In the hypophysis, there was found in various psychoses, a predominance of the basophiles over the eosinophiles in the anterior lobe, which is exactly opposed to the findings in healthy persons of corresponding age and may possibly be regarded as a sort of retardation of function of the hypophysis The genital glands, the thymus and the epiphysis showed no typical changes If we may be allowed to generalize on these findings, it may be stated that only in exophthalmic goiter could infantilism of the endocrine glands be demonstrated histologically—not in psychoses such as they investigated More extensive investigations may bring to light characteristic changes

Infant Mortality and Causes of Death in Infants During the War—Rott endorses the view that the significant decrease in the percentage of deaths in infants from gastro-intestinal catarrh and from cholera nostras is due to the fact that, during the war, more infants were breast fed

Medizinische Klinik, Berlin

April 23 1922 **18** No 17

*Gastro Intestinal Spasms J Pal—p 521
*Acute Tonsillitis R Imhofer—p 526
*Treatment of Paralysis Agitans F Franke—p 528
Experiences with Pneumoradiography of Kidney Region P Rosenstein—p 529
*Spirochetal Jaundice and Workmen's Compensation J Schurer—p 533
*Septic Abortion Grube—p 534
*Test for Specific Gravity of Urine A Kirch—p 535
Transportable Apparatus for Over and Under Pressure M Wassermann—p 536
Estimation of the Wassermann Reaction H Hecht—p 537
Practical Questions in Obstetrics F Runge—p 538 Cont'n
Present Status of Epilepsy K Singer—p 540
Present Status of Tartar Emetic M Mayer—p 541

Treatment of Muscular Spasms—Pal explains how treatment must differ according as the spasm is the result of hypertonia or hyperkinesia or is a permanent contracture Psychic and reflex causes must be combated and the stimulus to the hyperkinesia modified He warns against a drug to deaden the pain as merely a convenient makeshift We can act on the spasm by checking the action of the nerve innervating the muscle, the vagus and pelvic nerves are inhibited peripherally by atropin The muscle itself can be influenced by papaverin emetin camphor or benzyl compounds The third factor, the sympathetic nerve, might also be acted on, epinephrin may be useful for this but is not reliable by the mouth, especially with spasm in the lower bowel Local heat reduces the movements and excitability of the bowel With permanent contracture, internal medication is futile but spasm in esophagus and rectum may be accessible to local medication

Anginosis—Imhofer agrees with those who regard angina—infectious sore throat—as more than mere tonsillitis It is a general infection, and the tonsils are only one link in the chain The kidney and joint disturbances that have been observed after anginas form part of the original syndrome It only comes to an earlier manifestation in the tonsils, and tonsillectomy removes a particularly favorable field for its manifestations to develop Hence the term anginosis" is descriptive He urges all who encounter cases of actual angina after tonsillectomy to study them with special care He also emphasizes that this conception of anginosis calls for general treatment, not merely spraying the tonsils General treatment by parenteral injection of milk seems promising and the one case in which he tried it seemed to stamp this anginosis as a particularly favorable field for protein therapy

Treatment of Paralysis Agitans—Franke reports improvement in a case of grave paralysis agitans under calcium chlorid which seems to have something of a causal action in this disease It had the drawback of increasing immeasurably the output of urine This may have been a bladder neurosis in the woman of 65, as it yielded to phenobarbital Thus improved conditions materially, and was kept up for the three years of her life relieving her of cramps and tremor although the disease progressed otherwise She took 0 05 gm of phenobarbital three times a day He cites also a case of rotary tic of the head which yielded in five months to a solution of 100 parts calcium chlorid in 500 parts distilled water An eight months' course cured likewise a case of convulsive tic of the neck muscles

Spirochetal Jaundice as Result of Industrial Accident—The man of 62 developed fatal spirochetal jaundice two weeks after a fall into a cesspool An analogous case was published by Stirl The right to workmen's compensation was recognized in both cases

Septic Abortion—Grube relates that he always evacuates the uterus with septic abortion and in twenty years has never had a death from this cause This is also the practice of the practitioners he has consulted He thinks it is much the lesser evil outside of institutions

Specific Gravity of Small Amounts of Urine—When the amount is too small for the ureometer Kirch adds more urine with known specific gravity He gives the formula with which the calculation can be easily done

Monatsschrift fur Geb und Gynakologie, Berlin

February 1922 **57**, No 1 2

*The Placenta K de Snoo—p 1
Endocarditis and Pregnancy H Eufinger—p 26
Histologic Findings in Ovum Retained Eleven Months M Tranca Rainer—p 31
*Axial Torsion of Uterus at Term E Vogt—p 55
Unreliability of Wassermann Reaction in Parturients K Brunner—p 42
Opsonogen in Treatment of Mastitis Bodin—p 52
Origin of Blood Moles A Greil—p 53
Histology of Pedicle of Villi of Hydatidiform Mole H Hillebrand—p 67
Primary Tubal Carcinoma L Hillebrand—p 72
The Time Question in Deep Roentgentherapy A Haupt—p 75

Importance of Placenta for Duration of Pregnancy—De Snoo argues that the placenta has an inhibiting influence on the uterus musculature As the placenta grows old, this influence grows less The logical inference that a tendency to habitual abortion can be combated by administering placenta extract has proved its correctness in many instances in his experience, abortion or miscarriage thus being warded off He ascribes this action to the trophoblast which, he says, has its separate existence and life course It loses its vitality after the ninth month, and this starts the birth process This trophoblast in powder form seems to pass through the digestive tract without loss of its special features A normal placenta yields about 20 gm of powder, and he gives from 3 to 6 gm by the mouth daily By this means patients have been tided along to term who under all other measures had regularly aborted or miscarried He regards the placenta powder as indicated further in all cases when the contracting forces of the uterus are working too vigorously

Torsion of the Uterus—In Vogt's case the uterus in labor had twisted at least 180 degrees After cesarean section it righted itself

Munchener medizinische Wochenschrift, Munich

March 31 1922 **69** No 13

Percutaneous Treatment of Tuberculosis F Moro—p 457 Idem Gottlieb—p 459
Conjunctivitis as Early Symptom of Tuberculosis L Santhoff—p 460
Hemianopic Pupil Reaction Oloff—p 462
Vaccination Against Varicella Thomas and Arnold—p 464
Vitamins and Diabetes Klotz and Hopfner—p 465
Discutient Phenomenon in Diagnosis of Scarlet Fever J Blum—p 466
Technic of Wedge Osteotomy K Zimmermann—p 467

A Simple Finger Splint F Franke —p 468
Sodium Iodid in Inflammatory Processes R Oppenheimer —p 468
Geographic Distribution and Epidemiologic Significance of Appendicitis H Dieterich —p 469
Irrigation of Wounds with Hot Water B Chitzkelsohn —p 470
The Treatment of Malaria M Reh —p 470
Case of Malignant Edema Following Laparotomy Duttmann —p 471
Modern Treatment in Industrial Accidents P Ewald —p 472
Ostensible Dangers of Twilight Sleep H von Peham —p 473
Two Cases of Chronic Ankylosis of Spine E Fraenkel —p 474
Cutaneous and Mucosal Hemorrhages Associated with Bone Marrow Injuries Fatal Result Following Treatment with Arsphenamin Mercury and Collargol J Voigt —p 474
Treatment of Exophthalmic Goiter A Krecke —p 476

April 7, 1922 **69**, No 14

Revised Method for the Demonstration of the Herelle Virus Pfreimbter Sell and Pistorius —p 495
*Spinal Fluid in Experimental Syphilis F Plaut and P Mulzer —p 496
Anatomic Changes in Experimental Syphilis in Rabbits F Plaut P Mulzer and K Neuburger —p 498
Differentiation of El Tor and True Cholera Vibrio R Kraus —p 499
*Ether Therapy and Prophylaxis of Peritonitis Sigwart —p 500
Constructive Surgery J F S Esser —p 502
Adhesive Plaster Dermatitis H W Siemens —p 506
Diagnosis of Cancer of the Lung R Nussbaum —p 507
Spread of Tuberculosis in Rural Districts E Nehring —p 508
Intensifying of Tissue Stains K Post —p 509
Chorio Epithelioma Bleeding into Abdominal Cavity Nagelsbach —p 510
Retrosternal Luxation of the Clavicle A Schlegel —p 511
Hemorrhage in Cerebellum G Hofmann —p 511
Morbid Desire to Clip Golden Locks Petersen —p 512
Technic of Metreurysis E Schoning —p 513
Appendicitis and Situs Inversus Landgraf —p 513
Roentgenologic Diagnosis of Pulmonary Tuberculosis Kastle —p 513
Tuberculin Treatment in General Practice Baemeister —p 514

Diagnostic Importance of Behavior of Cerebrospinal Fluid in Experimental Syphilis in Rabbits—Plaut and Mulzer report that pleocytosis is frequently the first symptom of syphilis in rabbits following experimental inoculation with the disease Through examination of the spinal fluid one can assure oneself that the inoculation has been successful before any other evidence is forthcoming, and more particularly, before the site of the inoculation shows any reaction whatever Often, orchitis or the primary effect appeared only weeks or months after a number of positive tests of the cerebrospinal fluid had been made In one rabbit, syphilis of the testicle developed six months after the inoculation, whereas pleocytosis was noted in the spinal fluid as early as five weeks after inoculation In fact, in some animals, pleocytosis remained the only symptom and during a long period of observation, no external signs of the infection were recognizable It is thus evident that changes in the spinal fluid may be not only the first but for a considerable period of time (possibly throughout the whole course of disease) the only sign of syphilis in the rabbit

Ether Therapy and Prophylaxis of Peritonitis—Sigwart reported four years ago his experiences with the injection of ether into the abdominal cavity in diffuse peritonitis The results at that time had been very favorable, of 11 cases of diffuse peritonitis only one resulted fatally, and here death occurred eighteen days after the operation, from gangrene of lung In his first trials of ether therapy he counted on some severe manifestations of shock but was surprised to note nothing more serious than retarded respiration and cessation of respiratory movements for short periods However, in the present series of cases in which prophylactic injections of ether were employed he witnessed several severe manifestations of shock and in one instance he feared for a time a fatal outcome, and it took several hours before the woman was out of danger He thinks these accidents were due to lack of drainage or ventilation, and that they can be avoided in the future by not closing the abdomen so soon after the injection of the ether He still ascribes to ether great therapeutic value as a means of warding off peritonitis in an infected pelvic cavity He uses as high as 250 c c of ether

Zeitschrift fur Geburtshulfe und Gynak, Stuttgart

March 4 1922 **84**, No 3

*Placenta Accreta H A Dietrich —p 579
Cesarean Section in Fatal Eclampsia B Bauch —p 596
Conservative Operations on Adnexa Nürnberger —p 606
*Treatment of Gonorrhea in the Female G V Frink —p 638
*Toxic Degeneration of Liver in the Pregnant Schultheiss —p 644
*Pregnancy Angiospasms H Hinselmann et al —p 673
*Fruits and Seeds F Ahlfeld —p 698
Menstruation and the Biologic Waves Labhardt and Hussy —p 715
*Differential Diagnosis of Uterine Changes A M Marx —p 742
White Necrosis of the Placenta E Clemenz —p 758
Bacteriology of Umbilical Cord H Kustner —p 771

Placenta Accreta—When the placenta has grown into the wall of the uterus, it is impossible to separate it, and the only recourse is prompt hysterectomy Dietrich had a case of the kind and has found records of nineteen similar cases in which the basal decidua was lacking, and the villi grew directly into the muscular wall Death from hemorrhage is the rule in these cases

Heat in Treatment of Gonorrhea in Women—Frank has used in fifty cases a flexible metal sound which is heated by electricity to a temperature up to 55°C This applies heat to the mucous membrane of the urethra and cervix, and thus induces a healing hyperemia while reducing the vitality of micro organisms He regards the results as very encouraging in old refractory cases

Pregnancy Toxic Degeneration of Liver—A case of acute yellow atrophy of the liver in an otherwise healthy young woman in the second or third month of pregnancy is described, with the necropsy findings

Pregnancy Angiospasms—Tests of forty-six nonpregnant women and 150 tracings from a large number of the pregnant have apparently confirmed the great importance of recording the spasmodic contractions of the blood vessels the capillaries in particular It allows insight into pathologic conditions from an entirely different standpoint The circulation of the blood in the pregnant is altered even at points remote from any mechanical influence The angiospasms are affected remarkably by the labor contractions, this tends to refute the assumption that toxic factors are responsible for the angiospasms The vascular tonus in the pregnant will repay further study

Fruits and Seeds—Ahlfeld here reviews his long life work as a gynecologist and obstetrician, and lingers on certain features which he regards as achievements and others which he hopes will prove fruitful seed One of his 'fruits' is the examination of the woman near term, the abdomen exposed the patient placed high enough so the observer does not have to stoop Simple prolonged quiet inspection of the abdominal wall when the wall is thin will reveal conditions in the uterus showing congested vessels to be avoided in section and other data Direct auscultation of the uterus he has always found more instructive than with a stethoscope Fetal singultus seems to be a physiologic process, as also the rhythmic movements of the fetal respiratory muscles to which he first called attention He is convinced that alcohol destroys the bacteria dangerous for puerperal infection, the alcohol makes its way into the skin One of Ahlfeld's precautions is to use a glass tube in the vagina for the preliminary cleansing The fluid thus hits the cervix first and flows out, instead of washing the bacteria already in the vagina back to the cervix

Differential Diagnosis of the Uterus—Marx discusses how to distinguish in dubious cases between abortion, pregnancy and disease In a case encountered the sepsis after abortion had been complicated with a gas-forming infectious process in the uterus and the blood in the urine and pouch of Douglas showed only methemoglobin evidently from bacterial action

Casopsis Lekaruv Ceskych, Prague

Feb 4 1922 **61** No 5

Experimental Transient Astigmatism from Strain of Ciliary Muscle of the Human Eye J Belehradek —p 81
Abnormities of the Ear J Javurek —p 83

Feb 11 1922 **61** No 6

Complications During and After Laryngectomy and Their Prophylaxis A Precechtel —p 105
*Treatment of Tuberculosis of the Nose B Dedek —p 109
Importance of Yeast as Food T Hegner —p 111
Anemia Infantum Pseudoleukemica L Kucera —p 112
New Type of Pipet for Serologic Reactions J Pirc —p 115

Treatment of Tuberculosis of the Nose—Dedek recommends ultraviolet rays (Kromayer's lamp) after a thorough surgical cleaning of the field

Feb 18, 1922 **61** No 7

Technic for Complete Extirpation of Larynx A Jurasek —p 129
Cystic Dilatation of Lower End of Ureter K Neuwirt —p 132
Operative Treatment of Tuberculous Spondylitis O L Schulz —p 137

Feb 25 1922 **61**, No 8

Protein Treatment J Urbanek —p 153
*Refractometric Analysis J Becka —p 161
Terminology of Influenza and Epidemic Encephalitis K Henner —p 164

Refractometric Analysis—By using a general formula Becka enlarges the field of this method, especially for the determination of sulphates and chlorids

Rivista di Clinica Pediatrica, Florence

March 1922 **20** No 3

*Sodium Lactate in Treatment of Acetonemia E Modigliani —p 129
Congenital Ptosis of Eyelids Two Cases G Squarti —p 146
*Invagination of Colon P Iacchi —p 159

Sodium Lactate in Treatment of Acetonemia—Modigliani advocates this treatment as effectual and harmless, it is a normal constituent of the blood that probably is lacking in acid intoxication It does not cause symptoms of intolerance even given to infants up to 30 gm per day It is easily oxidized being rapidly transformed into sodium carbonate in the blood, and this is eliminated in the urine It has a strongly alkaline action on the blood and urine, neutralizing the excess of acid, and promoting oxidations which aid in the transformation of the acetone bodies and thus ward off production of acetone He has used it in thirteen cases, giving from 12 to 30 gm at first and then less in the following three or four days The urine became alkaline by the second day in all, and the tests for acetone were negative by the third or fourth day, and the headache, vomiting fever, dyspnea and the odor on the breath promptly subsided The sodium lactate can be generated at the time by mixing in 30 c.c of hot water 2 tablespoonfuls of 10 per cent solution of lactic acid in distilled water and 2 tablespoonfuls of 7 5 per cent solution of sodium bicarbonate In four of five cases there has been no return of the acetonemia in the fourteen to sixteen months since

Invagination of the Colon—Iacchi manipulated the invaginatum through the rectum of the infant of 9 months The invaginated portion protruded into the rectum, and he succeeded in reducing it by taxis in this way

Zeitschrift fur Urologie, Leipzig

1922 **16** No 3

Bactericidal Action of Tellurium G Joachimoglu —p 97
Gunshot Wounds of Lower Urinary Organs E Phster —p 101
Chemistry of the Colloids in the Urine E Joel —p 124

1922 **16** No 4

*Function of the Kidney Calix H Haebler —p 145
The Bladder in Colon Bacillus Sepsis S Werboff —p 151
*Calculi in Bladder A Nakajima —p 155
*Actinomycosis of Kidney H Pinner —p 187

Function of Kidney Calix—Haebler confirms Wassink's statements in regard to the peristalsis of the normal kidney pelvis and calices of living mammals There is not only a circular contraction, but lengthwise, 'milking' movements

Calculi in Bladder—Nakajima's long study of bladder stones their varieties, almost universal geographical distribution, and origin incriminates uric acid and calcium as indispensable for the formation of calculi in the bladder The calculus requires further some organic albuminoid substance, and for this some pathologic change in the kidneys is responsible

Actinomycosis of the Kidney—The kidney lesion accompanied actinomycosis of the lungs and pleura in the case described with an illustration There had been an interval of two years before the kidney symptoms had developed Only 7 instances are known of primary actinomycosis of the kidney, but in 460 cases of actinomycosis of chest or abdomen, secondary infection of the kidney occurred in 16 Pinner's patient was a previously healthy man who used to chew grain stalks as he unloaded barley in working for a brewery He had apparently recovered after an operation on the chest and recovery was smooth after the nephrectomy

Zentralblatt fur Chirurgie, Leipzig

Feb 18, 1922 **49** No 7

*Fatality in Treatment of Varicose Veins J Hohlbaum —p 218
Correction of Nose Deformities at Operations for Harelip Meyer —p 220
Plastic Operation Corrects Tabetic Paralysis of Bladder Oppenheimer —p 221

Fatal Embolism Following Treatment of Varicose Veins with Pregl Solution—Hohlbaum tells of a fatality resulting from the Wittek procedure for the treatment of varicose veins with Pregl solution In the 54 year old patient, the veins were very extensive and about the size of a finger, spread over the whole area of the great saphenous vein In view of the extraordinary size and extent of the varices, 80 c c of Pregl solution were injected into the vein from a puncture just below the knee joint a compressing bandage having been applied at about the middle of the thigh The bandage was loosened ten minutes after the injection, a tricot bandage and a splint were applied to the leg, and the patient was put to bed Two days later the tricot bandage was removed and it was found that from the site of the injection distally the vein was thrombosed throughout its whole extent The temperature was 37 4 C, with slight pains at the site of the injection The splint was not removed and three days later the thrombosis had extended to the groin The patient complained of slight shooting pains in the left chest on breathing and on movement of the trunk Slight crepitation was noted posteriorly in the lower left lung A week later, while the patient was still in bed the splint not having been removed he died suddenly, with signs of embolism of the lungs (just two weeks after the injection) It is evident that the procedure is not as harmless as reported Hohlbaum does not wish to discredit the method, in fact, if used with caution, he regards it as an extremely simple and reliable means of ridding a patient of even extensive varicose veins

Zentralblatt fur Gynakologie, Leipzig

March 11 1922 **46**, No 10

Proposed Basis for Carcinoma Statistics L Seitz —p 369
*Operability of Cancer of the Uterus R Himrichs —p 373
The Glycogen Content with Reference to the Reaction of the Vaginal Secretion in Women and Certain Domestic Animals C Pasch —p 375
External Hydrocephalus and Management of Childbirth Fink —p 377
Construction of Vagina (Schubert Method) Keyserlingk —p 380
Construction of Vagina from Small Intestine Neugebauer —p 381

Operability of Cancer of the Uterus—Himrichs reports on the operability of cancer of the uterus in the period from 1910 to 1921 in Stoeckel's service, a total of 547 cases Following Winter's standard it was only natural that misconceptions in regard to the true extent of the tumor were comparatively frequent Many a case which, from the macroscopic palpation findings is judged to be "barely operable' and which owing to the confidence in the high standard of the technic, is actually operated on is found on applying the abdominal radical operation, to be in reality inoperable, although it may prove possible to finish the operation by evacuating, with difficulty certain glands or by resection or injury of the ureters or bladder Many a carcinoma thought to be operable breaks down at once when traction is applied to the uterus many a carcinoma proves to be no longer radically operable owing to gelatinous infiltrations around the large vessels On the other hand cases regarded as unfavorable may appear in a much better light when viewed and judged after the abdominal cavity is opened Kronig emphasizes the diagnostic exploratory value of the abdominal operation and advises opening the abdomen in all inoperable cases in order to reach an unequivocal decision in every case Himrichs found the average operability to be 67 per cent and the inoperability 33 per cent Carcinoma of the body of the uterus remained operable for a long time as is known Comparing the inoperable cases of 1913 with those of 1918 there was found to be an increase of 6 4 per cent A comparison of the inoperable cases of 1910 with those of 1920 showed an increase of nearly 18 per cent

Acta Medica Scandinavica, Stockholm

April 22 1922 56, No 4 Schauman Festskrift

The Individual Reacting Capacity F Martius —p 330
*The Mental Technical Aspect of Piano Playing R Tigerstedt —p 334
*Renal Arteries and Blood Pressure A Wallgren —p 356
The Swedish State Institute of Race Biology H Lundborg —p 371
*The Mendelian Laws H Federley —p 393
*Heredity in Pernicious Anemia O Mustelin —p 411
*Long Remission in Pernicious Anemia E A von Willebrand —p 419
*Stenosis of Intestine and Pernicious Anemia E Meulengracht —p 432
*Capillary Circulation in Pernicious Anemia Hisinger Jagerskiold —p 443
The Sachs Georgi Reaction in Bothriocephalus Carriers G Becker —p 453
*Chronic Stomach Disease R Ehrstrom —p 461
*The Sexes in Relation to Appendicitis W Backman —p 478
*Renal Diabetes A Johnsson —p 489
Transient Reduction of Refracting Power in Diabetes Fnroth —p 500
*Lack of Water in the Tissues and Acetone Excretion R Ehrstrom —p 507
The Heart Rate and Minute Volume C Tigerstedt —p 510
Acromegaly Two Cases F Saltzman and J Olin —p 523

The Schauman Festskrift—The seventeen articles in this number of 217 pages form a memorial tribute, as Schauman died a few weeks before his sixtieth birthday for which the *Festskrift* was planned All the articles are in German except one in English on page 371

The Psychotechnic of Piano Playing—For this study Tigerstedt had an electric recording drum connected with the keys of the piano

The Arteries of the Kidney and High Blood Pressure—Wallgren declares that the evidence to date is inconclusive as to whether the changes in the renal arterioles precede or follow the high blood pressure

The Mendelian Laws in Human Heredity—Federley discusses how best to study the mendelian laws as they affect human beings, remarking on the many difficulties encountered in study of human heredity The main thing now, he reiterates, is to compile data, collecting material and tracing family strains through generations When sufficient data have been accumulated research on heredity can proceed on a reliable basis, whereas now it is mostly mere surmise

Heredity and Pernicious Anemia—Mustelin refers to Schauman's series of twenty-four families with two or more cases of pernicious anemia, and he adds a new family to the list It is the first on record in which pernicious anemia was known in three generations mother daughter and granddaughter Meulengracht has published an instance of five cases in one Danish family The disease grew more severe and developed earlier in each succeeding generation

Remissions in Pernicious Anemia—Willebrand's patient presented the signs and symptoms of pernicious anemia ten years ago, but they have subsided during the last few years The findings now are merely those of ordinary anemia gastric secretion has been approximately normal throughout

Stenosis in Small Intestine and Pernicious Anemia—Meulengracht reports another case of pernicious anemia developing in a woman of 64 with three strictures in a certain segment of the small intestine

Capillary Circulation in Pernicious Anemia—The research on fourteen cases showed characteristic findings in the capillaries in this disease

Chronic Stomach Disease—Ehrstrom comments on the paucity of our knowledge of this subject

The Sex in Relation to Appendicitis—Backman relates that the male cases only slightly predominated in his 274 cases of destructive appendicitis, while women formed 70 6 per cent of the 659 cases of the catarrhal type of the disease

Renal Diabetes—Johnsson found sugar in the urine on repeated examination during ten and sixteen years in his two cases The sugar content of the blood was found normal always, fasting The father of one of the patients is a diabetic, and two brothers show symptoms of slight diabetes The sugar test was followed by a subnormal and a normal response in his two cases

Water Deficit and Acetone Excretion.—Ehrstrom queries whether relative water deficit plus carbohydrate starvation provides the conditions for abnormal acetone excretion His experience testifies to this assumption

Acta Paediatrica, Stockholm

April 15 1922 1, No 4

*Rachitis J Jundell —p 355
*Acid in Infants Blood and Urine T Stenstrom —p 381
*Hydrochloric Acid in Infants I Chievitz —p 416
Aregenerative Aplastic Anemia in Boy of 4 N Malmberg —p 438
Index of Nutrition E Nobel —p 449 Idem U Hjarne —p 452

Pathogenesis and Treatment of Rachitis—Jundell treats rachitis systematically and consistently with relative inanition, and his excellent results with this method have been already recorded in these columns This alone cures in the mild cases, and when supplemented with cod liver oil and phosphorus, even the severest cases have always yielded to it in a month or two The calories are reduced to 65 or 70 per kilogram, the milk to 60 or 75 c c per kilogram The rest of the calories are obtained from sugar and flour, and, as soon as practicable potatoes and grits vegetables and fruit are given Tea, beef tea, cocoa or fruit syrup are also given, the total intake of fluid not surpassing 1 liter a day during the first year of life The rapid recovery from rickets during this relative inanition, and the fact that rachitis does not develop in children with pylorospasm or other condition entailing protracted inanition sustain his view that overstrain of the general nutritive functions of certain endocrine glands seems the most plausible explanation of rickets By reducing the intake of food we ward off and reduce this overstrain (In English)

Acid Content of Blood and Urine of Infants with Nutritional Disturbance—Stenstrom gives the tabulated data from eleven male infants, three of them healthy The metabolic findings showed actual acidosis after the fat element in the food had been increased for the eight infants with dystrophia and this was possible also in the one healthy infant tested The production of acid was not increased by augmenting the carbohydrate content of breast milk, but with cow's milk the acid increased in one dystrophic infant As the acid increased the excretion of nitrogen decreased

Hydrochloric Acid Secretion in Infants—Chievitz classifies fifty-three infants in various groups and tabulates the details of the findings after the barley gruel test meal No instance of congenital achylia was discovered but there was achylia or hypochylia *in about half the cases of essential digestive* disease In the healthy, the values of the free hydrochloric acid averaged Gunzberg 8, Congo 11, and phenolphthalein 14

Hospitalstidende, Copenhagen

March 18 1922 65, No 8

*Vaccine Treatment of Urinary Infections O Wulff —p 17 Concn No 10 p 157

Vaccine Treatment of Urinary Infections—This communication summarizes what has been published in this line and the experiences with 108 patients in Rovsing's service in the last ten years, including 8 under 15 years of age There were only 20 men to 88 women The colon bacillus was responsible in 92 and the staphylococcus alone in 8 A spontaneous cure of infection of the urinary passages is of extremely rare occurrence The acute symptoms subside but the infection persists, it always bears the chronic imprint Vaccine therapy aided in eradicating it in many of the cases recorded Those reporting favorable results with it were always those with the longest series of cases All are agreed on the necessity for autogenous vaccines and for beginning with small doses Wulff gave up to 10,000 millions and over The tolerance and the clinical action are the guide, estimation of the opsonins is too tedious The tolerance varies widely, and slight by-effects are liable to be observed The duration of the immunization is a question, the intervals since without recurrence have been up to twelve years In the experience of large numbers of clinicians 20 per cent of the patients seem to be refractory Vaccine treatment as a preliminary to operations on infected urinary passages seems promising, but has not been tried on a large scale yet

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ENDOCRINOLOGY *

LEWELLYS F. BARKER, M.D.
BALTIMORE

This symposium on internal secretions includes several papers that deal chiefly with the physiologic, the pathologic and the therapeutic effects of endocrine substances. I have been asked to make, by way of introduction, some general remarks on the subject of endocrinology as a whole. A discussion of the topic is timely and should be of value to workers in every branch of medicine. The profession in general is evincing a lively interest in the internal secretions, as is shown by the titles of papers read at medical meetings. An association for the study of the internal secretions already has a large membership, and its special journal, *Endocrinology*, is widely read.

THE ENDOCRINE ORGANS

Organs of the body that yield to the blood, in addition to the common metabolites resulting from the general life processes of cells, certain specific products that influence distant parts have been designated "endocrine organs," and the special substances thus yielded are known as "internal secretions." These endocrine organs have sometimes been called the "glands of internal secretion" because their products are distributed to the circulating fluids of the body itself rather than to the world outside or to tubular canals that communicate with the external world. They have sometimes been called "ductless glands," to distinguish them from glands whose products emerge through epithelial lined channels, though it should be remembered that in some organs, like the pancreas, we have some parts producing an external secretion discharged through a duct and other parts producing an internal secretion that is discharged directly into the lymph or blood without the intermediation of a duct. Recently, the endocrine organs have been spoken of as "incretory organs," the specific substances they produce being known as "incretions," to distinguish them from the "secretions" and the "excretions" of other glands.

The principal endocrine organs are the thyroid, the parathyroids, the thymus gland, the lymph glands, the suprarenal glands, the gonads, the hypophysis cerebri (or pituitary gland), the epiphysis cerebri (or pineal gland), and the insular tissue of the pancreas (islands of Langerhans), though it is quite possible that other organs, as the spleen, the kidneys, the liver, the salivary glands and the prostate, also perform endocrine functions in addition to their other physiologic activities.

In agreement with the idea that the specific substances produced by the endocrine organs are carried by the blood or lymph to distant parts, modifying the activity of the cells there, the term hormone was suggested for these substances by Bayliss and Starling. It is quite possible, however, that some of these incretions, instead of acting as excitants or depressants of distant cells, as the hormones are supposed to do, perform the function of neutralizing poisonous substances circulating in the blood. Such hypothetic detoxicants have been designated "negative incretions," to distinguish them from true hormones, or "positive recrementitious incretions."

FUNCTIONS OF THE ENDOCRINE ORGANS

The ways in which the specific products of the endocrine organs influence the rest of the body are gradually being found out. Progress has been especially rapid since the more exact chemical nature of some of the specific substances produced has been discovered, making it possible to apply more extensively experimental methods to the study of hormonal activities. Epinephrin, isolated from the chromaffin tissues, thyroxin from the thyroid, pituitary extract from the hypophysis cerebri, and, very recently, insulin from the islands of Langerhans of the pancreas, are notable instances of incretory substances, or extracts, useful for experimental work. Physiologic investigators, as well as pharmacologists, have been busily engaged in determining by animal experiment the influences of these substances, or extracts, when introduced by various routes, on the physiologic processes in the different organs and tissues. Clinicians are comparing, in diseased human beings, the effects of these purer substances or extracts with the effects producible by administration of the fresh, or dried, organ substance as a whole. It is scarcely conceivable that an endocrine organ produces only a single important substance, as thyroxin in the case of the thyroid or epinephrin in the case of the chromaffin tissue, it would seem probable that each gland may produce at least several substances, even though our attention may at present be focused on only one.

Many of our ideas concerning the functions of the individual endocrine organs have been derived from extirpation experiments in which the effects on the animal operated on have been noted and the curative influences of substitutive therapy (organ transplantation, dried gland administration) have been observed. Even more important, perhaps, have been the clinical-pathologic studies that have correlated either anomalies of constitution or disease syndromes with demonstrable pathologic-histologic alterations in the endocrine

* Address of the chairman of the Section on Practice of Medicine read before the joint meeting of the Section on Practice of Medicine, the Section on Pharmacology and Therapeutics and the Section on Pathology and Physiology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

organs and with demonstrable physiologic or chemical evidences of overfunction or underfunction of those organs

Sufficient knowledge has been gained by these and other methods to make it seem clear that the incretions may act on distant cells in a modifying way either directly through transport through the blood to them, or indirectly through the intermediation of the autonomic nervous system When they act directly, they may determine the way in which the energies and substances in the terminal cells are utilized (functional correlation), or they may supply substances that are actually made a part of the distant cells that receive them and use them for their nutrition or for structural change (formative influence) When they act indirectly through the intermediation of the autonomic nervous system, they may, by stimulating, favoring or inhibiting the fibers of that system, greatly modify the functions of the secretory and excretory organs of the *body and of the involuntary musculature of the vascular*, digestive, respiratory and urogenital systems

Furthermore, either by direct stimulation of the nerve mechanisms concerned or by indirect influences on these mechanisms through the autonomic nervous system, endocrine products undoubtedly play an important role in the physiologic processes that are conceived of as running parallel to certain of the psychic functions, especially those that we designate as the affective and the conative This relationship of the incretions to the psychic mechanisms would seem clear from clinical observation of pathologic emotivity and of pathologic behavior observable in various endocrine disorders, notably in exophthalmic goiter and in myxedema

It is known, further, that profound effects are produced by certain of the incretions, especially those of the thyroid, the hypophysis and the gonads, through the regulation of the metabolic processes Whether these effects, in turn, result from influences exerted directly by the hormones on the body cells or indirectly through the mediation of the autonomic nervous system must be left to further investigations to reveal It would seem probable, however, that an acceleration of the general metabolism, such as can be induced by an excessive thyroxin production by the thyroid gland, may be due to a direct hormonal influence on the processes of combustion within the body cells, though it is conceivable that the same effects might be produced indirectly through hormonal action on a hypothetic metabolism-regulating center, located, say, in the interbrain Similarly, one might speculate regarding localized morphogenic effects, such as the growth of the acra in acromegaly, which could be due either to selective hormonal influences on local groups of distal cells concerned *in the growth processes, or to selective hormonal* influences on local groups of trophic neurons of the autonomic nervous system

THE SO-CALLED HORMONOPOIETIC SYSTEM

The conception that the endocrine organs are linked together so as to form a system of reciprocally dependent organs (hormonopoietic system) has gradually gained general credence, not only among clinicians, but also among physiologists and pathologists And it must be admitted that there is considerable evidence in favor of the existence of such a correlative interdependence among the several *incretory glands* Physiologists, through their experiments, have adduced many facts that point to manifold interrelationships between the glands of internal secretion And clinical-pathologic studies have shown that uniglandular endocrinopathies are rare, whereas pluriglandular endocrinopathies are common In exophthalmic goiter, for example, we see not only diffuse hyperplasia of the thyroid gland but also, not infrequently, hyperplasia of the thymus as well as signs of insufficiency of the gonads In Froehlich's syndrome, to cite another instance, we see not only the signs of a disorder of the hypophysis cerebri but also evidences of hypogenitalism It seems very probable therefore, that in the chemical integration of the bodily activities a certain cooperation among the endocrine organs is essential The hormonopoietic system is concerned as a whole It, like the nervous system, helps to correlate the partial systems of the body into a harmonious unity

EVOLUTIVE SIGNIFICANCE OF THE INCRETIONS

That the substances produced by the incretory organs are of great importance in the development of the individual, not only during embryonic life but also during the further evolution of the organism to the acme of its development, is now a generally accepted view The ontogeny of the single organism depends on reactions that occur between the germ plasm of the fertilized egg cell, on the one hand, and the environment (prenatal and postnatal) on the other The fertilized germ plasm, consisting of a complex of "gens," constitutes the so-called "genotype," which determines the modes of reaction that are manifested during development Environmental influences (at first chemical and physical, later on also psychic and social) are the other factors that are concerned in the development of the single creature The resultant of the interaction of these environmental influences on the one hand, and the inherited influences on the other, is the "realized organism," or, in the case of human beings the "realized person" This realized person is sometimes spoken of as the "phenotype" The inherited or constitutional factors (genotype) are known as the "determination factors" in development, whereas the conditioning influences of the environment are known as the "realization factors" (Roux) The part contributed by the germ plasm to the phenotype is known as the "constitution" of the individual, whereas the part contributed by the environment to the same phenotype is known as his "condition"

Students of heredity have long been interested in tracing the mode of development of the realized qualities or traits from their potentialities in the gens It now seems clear that, in this evolutive process, hormonal substances derived from the endocrine organs are of prime importance The functioning of the endocrine glands during development depends in part on their genotypic origin and in part on the modifying influences exerted on these glands at different stages of development from the environmental side It seems probable that a more exact understanding of racial peculiarities, of normal constitutional types or personal variants, and of pathologic anomalies of constitution will depend on our acquiring a more precise knowledge of endocrine activities during development

The general dimensions as well as the relative proportioning of the body are certainly in large part dependent on the incretions acting as morphogenic stimuli These stimuli determine not only the development of the skeleton and the closure of the epiphyseal

lines but also the development of the soft parts In a word, both the form relations and the functional manifestations of the phenotype are largely the result of endocrine activities The origin of the bodily features and a whole series of local and temporal maturations depend in the developing individual on a correlative differentiation that is largely determined by the functioning of the endocrine glands The special species characters, the special age characters, and the special sex characters of the realized person find their explanation here So, too, the strange faults of composition of the human body, the various bizarre anomalies of constitution that we see apparently owe their origin to endocrine disharmonies of the earlier developmental periods, disharmonies that are usually of genotypic origin, though they may sometimes, perhaps, be due to extraconstitutional, or so-called conditional, abnormalities

The task of the endocrinologist in unraveling the specific influences of the single endocrine glands on growth and development is one of extreme complexity, but nevertheless one in the solution of which gratifying progress is being made How far during intra-uterine life increlions derived from the mother (so-called "harmozones" of Gley) may reach the fetus and participate in morphogenesis (normal or pathologic) is a further task in which students of constitution and condition must sooner or later become interested

INVOLUTION AND ITS ENDOCRINE RELATIONSHIPS

After the body and the psyche reach their acme of development as the result of a long series of evolutive processes, a reverse process gradually sets in, both body and mind being subject, no matter how good the constitution or how favorable the environment, to gradual but progressive involution Physical and mental endurance lessen, the hairs grow gray or fall out, the skin becomes wrinkled, the teeth fall out, the stature lessens, the metabolic processes become retarded, interests change, desires begin to fail, and memory becomes uncertain In other words, the person "grows old" Coincident with the appearance of these involutive phenomena there seem to be changes not only in the endocrine glands themselves but also in the terminal organs on which their products operate In pathologic constitutions, in which the complex of gens in the genotype has been deficient, one or more of the involutive phenomena may prematurely appear Doubtless, too, persons of normal constitution who have been exposed over a prolonged period to very unfavorable environmental influences may become the victims of a precocious senium Some of the so-called heredofamilial diseases of the nervous system are probably examples of premature involutive processes affecting partial constituents of the organism, though how far, if at all, abnormal endocrine functions are responsible, we do not yet know Exact studies of the various processes of involution and their relations to the increlions will provide an abundance of work in the future for investigators of normal and pathologic physiology

CLINICAL RECOGNITION OF ENDOCRINE ABNORMALITIES

The clinical recognition of the endocrinopathies has been greatly aided by the observation of human beings in whom single glands have been removed surgically, have been severely traumatized, or have suffered destruction by disease The findings in human beings have been manifoldly corroborated by experiments on animals The studies of myxedema due to loss of the thyroid, of tetany due to loss of the parathyroids, of dystrophia adiposogenitalis due to injuries of the hypophysis, eunuchism due to loss of the gonads, of Addison's disease due to destruction of the suprarenals, and of diabetes mellitus due to injury to the islands of Langerhans, have thrown a flood of light on endocrine domains Studies of overfunction and of dysfunction have been similarly rewarding But various permutations and combinations of symptoms and signs that are possible in complex endocrinopathies make their study exceptionally difficult We are only on the threshold of that knowledge that we hope ultimately to possess

THERAPY OF THE ENDOCRINOPATHIES

Though the principles of therapy for the endocrine diseases are not hard to grasp, the application of these principles in practice is compulsorily restricted, owing to the fragmentary character of existing knowledge When, through constitutional deficits, or through unfavorable conditional influences, disharmonies of the hormonopoietic system arise, and evidences of hyperfunction, of hypofunction or of dysfunction, of one or more of the single endocrine organs appear, therapeutic intervention may become desirable Thus, in the various constitutional anomalies that seem to be dependent on endocrine imbalance, prophylactic measures may be undertaken with the object of maintaining the subjects of these anomalies within the limits of normal responsivity We attempt by adequate measures to counteract in such persons the special disposition to disease that the constitutional anomaly entails When a disease process has already developed, in other words, when an endocrinopathic personal variant has become incapable of satisfactory adaptation (state of irresponsivity), the physician may attempt to decrease function here, to increase function there, or to modify function elsewhere, in the hope of restoring balance, and of bringing the powers of personal adaptation again within the limits of normal responsivity Thus, in hyperfunction of an endocrine organ it may be desirable to excise a portion of it, or to curtail its activity by diminishing its blood supply (ice-bag, arterial ligation), or, by means of a depressive radiotherapy or chemotherapy On the other hand, in the case of hypofunction, it may become desirable to resort to organ transplantation, or to a substitution therapy (administration of gland substance, or of gland extracts, or of isolated hormones), or to attempt to revive a failing function by a dietetic hygienic regimen, or by mild stimulative radiotherapy

The field for endocrine therapy is undoubtedly a large one, but how most effectively to work in it, we must slowly and painstakingly ascertain Relatively little is gained, and much harm can be done, by reckless, ill-planned, fumbling attempts at increlory therapy Much better is it to proceed patiently, cautiously and methodically, rigidly controlling every step, and faithfully recording our failures as well as our successes Only slowly will it be possible to acquire the knowledge and the technic that will permit a physician properly to help the single endocrinopathic patient As yet we are far from being able satisfactorily to disentangle in a given person the complex interacting determination factors and conditioning factors that account for a given endocrinopathy Adequate disentanglement of these factors is, however, the goal toward which we must strive

SOME CONDITIONS CONTROLLING INTERNAL SECRETION*

W B CANNON, M D
BOSTON

No one may now question the great influence of the glands of internal secretion on important physiologic processes The growth of the body, the proper development of the nervous system, the appearance of secondary sex characters, the orderly sequences in the reproductive cycle, the nature and rate of chemical changes in the body—all these fundamental processes seem to be in the grip of the endocrine organs Agents which can determine whether an individual shall be a giant or a dwarf, an idiot or a normally intelligent person, a "sissy" or a real male, a bearded lady or a woman, agents which are essential to normal metabolism—*indeed, whose destruction may lead promptly to* death—must evidently be respected

There appears to be a tendency just now, however, to pay these glands not only respect, but reverence and homage and a blind worship The endocrine organs are referred to as "regulators of metabolism" and as "regulators of personality," as if they occupied an imperious position in our internal economy, and the other organs were mere servants to do their bidding This is a concept which is largely based, I believe, on the marked effects of either the destruction of endocrine glands or the development of tumors and other pathologic states within them When a gland is destroyed it is gone forever, and its absence tells us nothing about how it worked or the modulations of activity it may have had On the other hand, tumors *are* dictators in relation to the rest of the body, living riotously outside the law

Thus, two extreme conditions, neither of them normal nor even remotely physiologic, have led to the assumption of an endocrine almightiness Is that the mode of organization of the body? Is our internal government autocratically ruled by a czar or a kaiser or by groups of kings and princes, represented by the ductless glands, or is there a more democratic arrangement whereby influences pass to and fro among the various parts of the organization and, after many mutual adjustments, finally express themselves in function?

The physiologist regards the body in the latter sense —as a system of organs, each performing its service, each influenced by other organs and capable in turn of influencing other organs, and each having a use and a value only in relation to the others

Questions now arise regarding the real status of the glands of internal secretion If they have not the dominant position commonly assumed for them, how may they be subordinated? What influences can be brought to bear on them in such a way as to modify their activity? These are important questions to have answered—important because of the profound effects which the ductless glands themselves are capable of exerting In a brief survey I propose to present some of the evidence for physiologic control of the internal secretions

* From the Laboratories of Physiology of the Harvard Medical School
* Read *before the joint* meeting of the Section on Practice of Medicine the Section on Pharmacology and Therapeutics and the Section on Pathology and Physiology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

EVIDENCE FOR NERVOUS CONTROL

We now have evidence that at least the suprarenal medulla, the liver and the thyroid gland are subject to sympathetic nerve impulses Stimulation of the splanchnic nerves causes a discharge of epinephrin from the suprarenal glands into the blood stream in an amount which markedly affects other organs Such stimulation also liberates sugar from the liver Uridil and I[1] have shown that under stimulation the liver yields another substance which raises blood pressure and causes an acceleration of the denervated heart Furthermore, Smith and I[2] recently described experiments that confirm earlier work and testify to the efficacy of cervical sympathetic stimulation in calling forth a secretion from the thyroid gland

It is well known that the sympathetic division of the autonomic system is brought into action by pain, asphyxia and great emotional excitement That the *three endocrine organs mentioned above may* be strongly influenced by such conditions has been proved by numerous observations made both on experimental animals and in clinical cases Extra epinephrin circulating in the blood when a sensory nerve is stimulated or signs of rage are evoked can be demonstrated by a faster beat of the denervated heart[3] Emotional hyperglycemia or glycosuria, due doubtless to extra sugar freed from the liver, has been observed in cats disturbed by barking dogs, in students undergoing severe examination,[4] in aviators,[5] and in citizens terrorized by bombardments and air raids[6] The thyroid likewise may be stimulated by painful and asphyxial conditions Smith and I were able to obtain quite as striking results by such stimuli as we obtained by direct excitation of the cervical sympathetic strand The considerable *number of cases of exophthalmic goiter reported* as occurring in consequence of stressful circumstances during the war may perhaps be taken as additional indication of an influence on the thyroid gland exercised by the sympathetic nervous system

Another gland which may be affected by nerve impulses is the posterior lobe of the pituitary Weed Cushing and Jacobson[8] have reported that stimulation of the superior cervical sympathetic ganglion induces glycosuria (even though all nervous connections with the abdominal viscera have been severed), and that the result fails to occur if the posterior lobe of the pituitary has previously been removed In harmony with this result is Shamoff's testimony that the same stimulation induces, besides glycosuria, such diuresis as is induced by pituitary extract[9] The inference that a hormone is discharged *from the pituitary* as a result of stimulation has been somewhat invalidated by Rabens and Lifschitz,[10] who were unable to produce glycosuria by stimulating under physiologic conditions or to modify the glycosuria due to ether Furthermore, though Keeton and Becht[11] did augment the reducing substance in the blood by direct excitation of the pituitary, the effect was abolished by severance of the splanchnic nerves A nervous control of secretion from the posterior lobe of the pituitary is therefore in question

1 Cannon W B and Uridil J E Am J Physiol **58** 3 3 (Dec) 1921
2 Cannon and Smith Am J Physiol **60** 476 1922
3 Cannon W B Am J Physiol **50** 399 (Dec) 1919
4 Folin Denis and Smillie J Biol Chem **17** 519 1914
5 Marañon G Siglo med **66** 573 (July 19) 1919
6 Etienne and Richard Revue med Oct 12 1918
7 Maranon G Ann de med **9** 81 (Feb) 1921
8 Weed Cushing and Jacobson Bull Johns Hopkins Hosp **24** 40 1913
9 Shamoff V N Am J Physiol **39** 279 (Jan) 1916
10 Rabens and Lifschitz Am J Physiol **36** 47 1914
11 Keeton and Becht Am J Physiol **39** 109 1915

Thus far, attempts to prove that internal secretion of the pancreas is subject to sympathetic impulses have proved futile. Allen[12] has testified to his inability to secure any indication of such nervous control, and von Noorden[13] has declared that he has not seen any influence of the excitements of war in producing true diabetes. Indeed, in the Central Empires, where the food shortage was marked, the deaths from diabetes were fewer toward the end of the war, despite the increasing nervous stress, than they had been at the beginning.[14] According to de Corral,[15] however, stimulation of vagus fibers below the branches to the heart results in a reduction of the sugar content of the blood. This research, not yet confirmed, offers the only hint of which I am aware that the islet cells may be governed by nerves.

Nervous control of ductless glands involves the idea that they, like other structures governed by nerves, have their activities adapted to the needs of the body at different times. That the organism survives and lives normally when nerves to the suprarenal[16] or thyroid[17] gland are severed is not proof that the nerves are useless, any more than the continued service of the denervated heart as a pump is proof that the vagus and accelerator nerves are useless. The nerves may have, in relation to the glands, just as in relation to the heart, a tonic action for routine purposes, and at times of critical need they may have a special, or what I have called an "emergency" function, capable of rapidly mobilizing the bodily forces, internal secretions included, for the welfare of the organism as a whole.

No better illustration could be given of the tendency to regard the internal secretions as supreme and the nervous system as quite subordinate than in the theory underlying the clinical conceptions of vagotonia and sympathicotonia. Indeed, Eppinger and Hess,[18] the authors of the theory, have concluded that "the entire vegetative nervous system is under the control of the glands of internal secretion." Epinephrin is, indeed, able to reproduce almost all the changes that occur when sympathetic impulses are discharged. It has been supposed, therefore, to exercise a tonic action on sympathetic endings. For example, the height of arterial pressure is assumed to depend on the constant discharge of epinephrin into the blood stream, and a low blood pressure is ascribed to "hypo-adrenia." In order to have an antagonist for epinephrin—some substance which would take command of the opposing forces—Eppinger and Hess have conjured up a hypothetic hormone, "autonomin," acting like pilocarpin and physostigmin on the nerve endings of the cranial division of the automatic system. This assumed entity, first predicated in 1910, has never had the fortune of a real existence. Nevertheless, clinical literature has been rife with descriptions of cases with vagotonic and sympathicotonic dispositions.

It is well to recognize that there is no good evidence that epinephrin has any tonic effect in maintaining blood pressure. Aub[19] has measured the pressure four or five days after removal of both suprarenal glands and found it normal. Since epinephrin disappears from the blood a few minutes after it is injected or secreted, the continued normal pressure cannot be due to persistence of that substance in the blood. Stewart and Rogoff[16] have severed the nerves to one suprarenal gland and removed the other. Practically no demonstrable amount of epinephrin is secreted under such circumstances, and yet the animals remained for months in quite good condition. Gley and Quinquaud[20] have shown that vascular reflexes occur fully as effectively with the suprarenal glands absent as they do when the glands are present. Furthermore, Hoskins and McClure[21] pointed out, years ago, that an amount of epinephrin required to cause a rise of blood pressure is sufficient to stop all motions of the stomach and intestine. A ridiculous mechanism it would be that would stop digestion in order to provide a few extra millimeters of arterial tension! There is no satisfactory evidence that, in natural quiet existence, the suprarenal medulla gives off any secretion whatever. In times of stress it is brought into action by nerve impulses and may, indeed, then support the influence of the sympathetic system, and have besides special functions of its own.[22]

The general arrangement of the sympathetic division is favorable to diffuse and widespread action in which a distributed chemical agent could participate. The vagus endings and the endings of the other parts of the cranial autonomic division lie in or near the organs innervated, and are therefore favorable to separate and discriminating action. By means of the general diffuse action of the sympathetic, and the opposite particular action of the parts of the cranial autonomic supply, every variety of change is provided for. All the viscera can be affected simultaneously in one way or the other through increased or decreased tone of the sympathetic division. And any special organ can be separately affected one way or the other through increased or decreased tone in the special nerve of the opposed cranial division that is supplied directly to the organ. The sympathetic is like the soft and loud pedals, modulating all the notes together, the cranial autonomic is like the separate keys.

A dilated pupil, for example, due to increased sympathetic activity attending excitement, should be accompanied by a rapid heart rate, vasoconstriction, stoppage of the motions of the stomach and intestine, and other evidences of widespread sympathetic influences. Epinephrin secreted at the same time would act synergistically with the nerve impulses. On the other hand, constriction of the iris by action of the motor oculi when the light is strong may not be accompanied by disturbance of any other part of the cranial autonomic supply to the viscera. Indeed, there is no conceivable advantage in having a mechanism in which strong light would result not only in a smaller pupil, but also in a slower heart rate and an increased tone of the gastro-intestinal tract. As one can readily perceive, a single substance, "autonomin," acting extensively, like pilocarpin, on cranial autonomic endings, might have most disorderly effects in forcing to operate coincidently and in an unadapted manner organs whose functions in calm existence are not importantly related to one another.

12 Allen, F. M., J. Metabol. Res. **1**, 53 (Jan.) 1922.
13 Von Noorden, C., Med. Klin. **12**, 991 (Sept.) 1916.
14 Magnus-Levy, Deutsch. med. Wchnschr. **56**, 1150, 1919.
15 De Corral, Ztschr. f. Biol. **58**, 395, 1918.
16 Stewart, G. N., and Rogoff, J. M., J. Pharmacol. & Exper. Therap. **10**, 1 (July) 1917.
17 Manley and Marine, Proc. Soc. Exper. Biol. & Med. **12**, 202, 1915.
18 Eppinger and Hess, Vagotonia, English translation, New York, 1915, p. 9.
19 Aub, Am. J. Physiol., to be published.
20 Gley and Quinquaud, J. de physiol. et de path. gen. **17**, 807, 1918.
21 Hoskins, R. G., and McClure, C. W., The Adrenal Glands and Blood Pressure, Arch. Int. Med. **10**, 343 (Oct.) 1912.
22 Cannon, W. B., Bodily Changes in Pain, Hunger, Fear and Rage, New York, 1915, p. 184.

The ill-based theory of vagotonia has almost no respectable evidence to support it Not only the criticism of laboratory workers but also the testimony of clinical observers has done much to discredit it Cases are cited in which patients are equally hypersensitive to epinephrin and pilocarpin,[23] in which pilocarpin, atropin and epinephrin produce practically identical effects on the blood,[24] in which both atropin and epinephrin will stop auricular fibrillation,[25] and in which careful studies on various bodily functions showed no consistent sensitization to either the "sympathicotonic" or the "vagotonic" drugs In the presence of the foregoing evidence, "vagotonia" becomes merely a name—a name which, as applied to the entire cranial autonomic division and presupposing a general reinforcing and vagotonic hormone, is wholly without meaning

Reference was made above to the fact that activity of the sympathetic system may be varied up or down Strong stimulation of an afferent nerve will cause vasoconstriction and other indications of diffuse sympathetic discharge, including suprarenal secretion On the other hand, stimulation of the central end of the depressor nerve will cause vasodilation and a checking of any suprarenal secretion which may be going on[26] Quite possibly, therefore, conditions may exist in the body, characterized by either greater or less sympathetic tone than normal, but such states would not be determined by independent dominance of suprarenal secretion, for, as shown above, lack of any secretion at all does not lessen the efficacy of sympathetic impulses, and extra secretion is ordinarily dependent on the effect of nerve impulses The condition of the nervous system, not of the suprarenal medulla, therefore, is of primary moment

In the foregoing review, evidence has been adduced to show the subjection of certain endocrine glands to nervous government This emphasis, however, should not be interpreted as implying an independent dominance of the nervous system, for it, like other systems, is conditioned in its activities Again I wish to lay stress on the fact that the body is an organism, and that the parts collaborate and exercise mutual influences on one another

EVIDENCE FOR HUMORAL CONTROL

Nerves have been described as present in other of the endocrine glands than those mentioned above—for example in the anterior lobe of the pituitary body[27] and in the parathyroid bodies[28] On the other hand, it is reported that no nerve fibers are distributed to the interstitial cells of the testis, and very few to the suprarenal cortex Nevertheless, both these structures may undergo hyperplasia, associated, at least in the case of the interstitial tissue, with seasonal depression at times of sex activity[29] Evidently some other mode of control besides nerve impulses must prevail in such conditions And since the blood stream alone brings the glands into relation with other parts, it is naturally assumed that the influences affecting the glands and passing away from them are conveyed in the circulating blood In other words, the influences are of the humoral type

The presence of a nervous control of internal secretion does not preclude a humoral control Thus, the heart and the stomach and intestine are readily influenced by nerve impulses But they are likewise affected by epinephrin discharged by the suprarenals, i e, by a humoral agent Also the thyroid, though subject to nerve stimulation, is responsive to chemical factors brought by the blood For example, Cattell and I[30] found some years ago that stimulation of a discharge from the suprarenal medulla would cause an electrical action current in the thyroid

When we begin to consider the evidence for interrelation of the ductless glands, we find ourselves in a maze of complex possibilities, contradictory reports and uncertain inferences Much of the evidence is derived from distant effects of ablation or destruction of one or more of the glands, or from changes due to tumor growth, or to feeding gland substance None of these circumstances can be regarded as physiologic The results may be suggestive of some relation between the gland removed, or abnormal, or fed, and the other gland or glands which are altered thereby But it is hazardous to draw inferences from pathologic states relative to physiologic processes And even if there is *some* relation, we have not made satisfactory progress until we know what the relation is, the way it works and its full significance If we knew nothing of the function of the heart and as much as we now know about the endocrine organs, we might be led to infer that the semilunar valves exercise an inhibitory influence on the growth of the heart, for does not destruction or injury of the valves result in an enlargement of that organ? Do we reason any better than this in many of our inferences from the effects of experimental removal of the endocrine organs? We know almost nothing, for example, about the normal functioning of the suprarenal cortex Several observers have confirmed Hoskins'[31] observation that feeding thyroid gland enlarges the suprarenal body, especially the cortical portion, according to Herring[32] It is reported to be enlarged also by starvation[33] or by a diet deficient in vitamins[34] And Gley[35] and also Carlson[36] have found enlargement of the suprarenal bodies after removing the thyroid glands Is the enlargement due to stimulation by the thyroid, or is it compensatory to increased metabolism, or is it a biologic response conservative of important bodily material when the supply is low or is being rapidly consumed? These are some of the possibilities Certainly, in the presence of these complexities one has no clear idea of thyroid influence on suprarenal function

Possibly too much emphasis has been laid on mere changes of size More than thirty years ago, Rogowitsch[37] first noted that thyroidectomy is followed by hypertrophy of the pituitary body This observation has been confirmed by numerous investigators Kamo,[38] who removed the thyroid from young dogs, found, after a few months, marked pituitary enlargement, even to more than twice the normal size, manifested chiefly in the anterior lobe We commonly associate hypertrophy with extra activity, and we have

23 Lehmann Berl klin Wchnschr **56** 772 1919
24 Friedberg Deutsch med Wchnschr **46** 480 1920
25 Loeffler Schweiz Arch f Neurol u Psychiat **8** 177, 1921
26 Cannon W B and Rapport D Am J Physiol **58** 338 (Dec) 1921
27 Berkeley Brain **17** *515 1894*
28 Schäfer *The Endocrine Organs* London 1916 p 2
29 Tandler and Grosz Arch f Entwicklungsm **33** 297 1911
30 Cannon, W B and Cattell M Am J Physiol **41** 74 (July) 1916
31 Hoskins Am J Physiol **26** 436 1910
32 Herring Quart. J Exper Physiol **11** 47 231 1917
33 Byrne C H C Brit M Jour **2** 135 (Aug 2) 1919
34 McCarrison R Brit M J **2** 236 (Aug 14) 1920
35 Gley Arch internat de physiol **14** 175 1914
36 Carlson A J in discussing Cannon W B Results of Recent Studies on Ductless Glands J A M A **67** 1483 (Nov 18) 1916
37 Rogowitsch Beitr z path Anat u z allg Path **4** *1889*
38 Kamo Jap Med Lit **3** 33 1918

evidence that extra activity of the anterior lobe of the pituitary body is attended by an overgrowth of the skeleton Animals deprived of the thyroid, however, are stunted in growth Here we have an instance of hypertrophic change in one gland induced by removal of another, but with no corresponding hyperfunctional effect

Perhaps we shall have clearer signs of the cooperation of the endocrine organs if we consider briefly the influence of various representative glands on a common function For illustrative purposes I propose to call attention to some of the effects of the glands on certain bodily processes, which were mentioned earlier —growth, reproduction and metabolism

The relation between overgrowth of the skeleton, as in gigantism and acromegaly, and hyperplasia of the anterior lobe of the pituitary, is now fairly well established Extra skeletal growth is also associated with early castration On the other hand, both clinical and experimental studies point to early pituitary deficiency as causing failure of bony development This form of dwarfism is characterized by both short and slender bones A third gland whose function is essential to growth is the thyroid, for in its absence the stature is stunted Here are three endocrine organs, all having marked influence on the attainment of normal size One could readily speculate as to how they influence one another—the pituitary and thyroid appearing to work cooperatively and the gonads acting as a check on them—but we need facts rather than speculation

Reproduction depends on the gonads, of course, but it also depends on the thyroid and the pituitary glands If the young animal is deprived of either the thyroid or the pituitary, the generative organs are only slowly or imperfectly developed, so that a condition of sexual infantilism persists Hyperplasia of the pituitary, and also of the suprarenal cortex, in the young, is sometimes associated with precocious sexual maturity and activity Both the thyroid and the suprarenal cortex become enlarged during pregnancy Thus, the evidence seems to point to the thyroid and the pituitary glands and to the suprarenal cortex as factors essential to proper establishment of the reproductive function, and also possibly collaborating in the female, in the performance of that function

The pancreas, the suprarenals and the liver primarily, and likewise the thyroid and the pituitary, are all concerned with carbohydrate metabolism As is well known, excision of the pancreas results in diabetes, stimulation of the liver or injection of epinephrin increases the sugar in the blood, and removal of either the thyroid or the pituitary raises the assimilation limit of sugar Diabetes is occasionally associated with acromegaly and with exophthalmic goiter Probably all five of the glands mentioned above either cooperate or form a fairly stable combination of opposed influences But, again, how these organs are interrelated in their effects on metabolic processes is not at all clear

In the foregoing paragraphs I have merely hinted at some of the signs of cooperation among certain endocrine glands My purpose in doing so was to make the point that here, just as in the nervous government of internal secretion, there are indications that we are dealing with arrangements which are normally well ordered and subject to automatic control Bodily functions are managed by a system of checks and balances—by mutual adjustments such as those between antagonistic muscles, and by maintained equilibria, such as those between material income and outgo, and between acid and base in the blood We are justified by what we already know of bodily organization in looking for similar modes of restraining and releasing the internal secretions If the endocrine glands are regarded as the regulators of important physiologic processes, normally they are well regulated regulators Much work must still be done, however, before we shall know the mechanisms whereby the control of these agents is exercised But the work is highly important because of the potency of the endocrine organs when they are deficient or when they escape control and through pathologic activity play havoc with our internal adjustments

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THE RELATION OF THE INTERNAL SECRETIONS TO METABOLISM*

JOSEPH C AUB, M D
BOSTON

Among the various functions ascribed to the glands of internal secretion, the regulation of metabolism ranks high Not only is it a very important part of their activity but it is also the function about which the greatest and most accurate knowledge has been accumulated Of course, the general regulation of metabolism is not wholly controlled by the glands of internal secretion, for there are many other factors which exert influences which cannot now be ascribed to the activity of these glands Examples are found in the effect of exercise, the specific dynamic action of foodstuffs, fasting, sleep, etc, and it therefore cannot be assumed that these endocrine glands absolutely control the rate of metabolism But there can be no doubt that their general influence is great

As far as our knowledge goes, this influence is largely exercised on the heat production as a whole rather than on individual components of metabolism, such as the carbohydrates or salt This is not true of all of the glands The pancreas has a differential action and exerts its regulatory effect largely upon the utilization of carbohydrate It is also possible that the parathyroids have some isolated influence on the metabolism of inorganic salts [1] It is also true that the metabolic effects of other glands may be developed predominantly from one foodstuff, as in the combustion of carbohydrate after the administration of epinephrin, [2] but, in general, apart from the action of the pancreas and the parathyroids, the effect on the total rate is a fairly good index of the general influence of the glands on the body metabolism, at least as far as we know

The effect of each gland on the metabolic rate has been the subject of considerable recent investigation, so that a short summary of the work is difficult It is probably true that many glands credited with various effects produce these effects by indirect reactions on other glands, so that they are really merely indications of interrelationships The problem of interrelationships among these endocrine glands is difficult and

* From the Laboratories of Physiology of the Harvard University School of Medicine

* Read before the joint meeting of the Section on Practice of Medicine the Section on Pharmacology and Therapeutics and the Section on Pathology and Physiology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

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2 Boothby W M and Sandiford I The Relationship of the Increase in Blood Sugar Concentration to the Specific Dynamic Action of Glucose and to the Specific Dynamic Action of Adrenalin Am J Physiol 55 293 294 1921

should be discussed only when based on careful experimental data It is with this point of view in mind that I shall undertake, first, to show that probably only two glands, the thyroid and the suprarenals, are fundamentally and chiefly involved in the regulation of the total metabolic equilibrium, and, second, to suggest the mechanism of their action as fully as present knowledge will permit

A summary of the literature discloses the fact that there are four glands to which are attributed an influence on the rate of metabolism [3] Of these, the thyroid gland stands preeminent, and its stimulating action is so well known that further discussion is not essential here The gonads are also a factor, although a minor one Their removal is followed, after a period of about three weeks, by a fall in metabolism, as has been shown by Loewy and Richter,[4] Luethje,[5] Murlin [6] and others Korenchevski,[7] taking the data of his pupil Rovinski,[8] showed that this fall of metabolism after castration largely disappeared if the thyroid gland was first removed He therefore concluded that the effect of the gonads on metabolism was accomplished through an interrelation with the thyroid gland, and that the lowered metabolism following castration was due to a depression of thyroid secretion rather than directly to absence of the gonads

The influence exerted by the anterior pituitary is similar to that of the gonads, in that, after extirpation, there is a gradual reduction of the basal metabolic rate This was first shown by Benedict and Homans [9] Sometimes one finds, clinically, changes in the rate of metabolism of patients with active disease of the pituitary, but this is not a constant finding Boothby has recently stated (at the Society of Clinical Investigation) that, in his experience, these changes in acromegalias were always found in those patients who also showed some thyroid involvement It is therefore possible, although it has not been finally proved, that the metabolic effects of the pituitary are accomplished through the thyroid just as, probably, in the case of the gonads Administration of the glandular products of these two, however, has not affected the metabolism consistently, and further work needs to be done along these lines

The fourth organ which regulates the metabolism is the suprarenal This is a recent discovery Most of the work on this subject has been of a pharmacologic nature, by the subcutaneous and intravenous injection of large doses of epinephrin, as in the experiments of Tompkins, Sturgis and Wearn,[10] Sandiford [11] and others Their results have shown that there is an invariable rise of metabolism, which develops and disappears within a period of minutes Boothby and Sandiford showed that this could not be explained by a mere mobilization of glucose [2] These pharmacologic observations suggested that the secretions of the suprarenal glands, as they occur physiologically, might play a role in the regulation of metabolism, and Miss Bright, Dr Forman, Dr Uridil and I [12] have studied this possibility We found that removal under ether anesthesia of the suprarenal glands of cats was followed by a rapid reduction of the metabolic rate This occurred while the animal was still in good condition, and persisted until the final collapse

At the meeting at which these experiments were reported, Marine [13] announced his results with rabbits he laid stress on a belated and temporary increase in metabolism, which he has subsequently [14] interpreted as due to secondary thyroid activity We have not investigated the transient rise in metabolism which he reports but we have studied the fall of metabolism obtained so definitely in cats It was found that if the suprarenal glands were removed under urethane anesthesia, the fall in metabolism appeared shortly and tended to progress In these experiments, the cat remained in an anesthetized condition throughout the entire observation The observed fall in metabolism was not affected by injections of extracts of the suprarenal cortex, but could be eliminated by intravenous injection of epinephrin administered at a rate which is said to be physiologically probable in life, according to Stewart and Rogoff,[15] and Cannon [16] This has recently been confirmed by Boothby and Sandiford [17] in the dog with intact suprarenals Such results are certainly good evidence that the suprarenal glands may play a part in the variation of the metabolic rate by means of the normal secretion of epinephrin Clinical evidence for this is not so readily found, but it is probably seen in the high metabolic rates often found in the first observations made on excited patients It is not rare to find an untrained nervous subject who is emotionally disturbed by the procedure of the test Such patients may then show a higher metabolic rate than they display later, even though they remain quiet According to the emergency theory of Cannon,[18] it is during such excitement that epinephrin would be secreted In the few cases of Addison's disease reported with metabolic studies, evidence of reduced metabolism has been shown either by the nitrogen elimination or by the basal metabolic rate, but these cases are still too few to generalize about

Are the metabolic effects of thyroxin and epinephrin independent? Marine [19] has shown that the increase

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10 Tompkins E H Sturgis C C and Wearn J T The Effects of Epinephrin on the Basal Metabolism in Soldiers with Irritable Heart in Hyperthyroidism and in Normal Men Arch Int Med **24** *269 283* (Sept) 1919

11 Sandiford I The Effect of Subcutaneous Injection of Adrenalin Chloride on the Heat Production Blood Pressure, and Pulse Rate in Man Am J Physiol **51** 407 422 1920

12 A Full Report of These Experiments Will Appear Shortly in the American Journal of Physiology

13 Marine David and Baumann E J The Influence of Glands with Internal Secretion on the Respiratory Exchange II Effect of Suprarenal Insufficiency (by Removal or by Freezing) in Rabbits Am J Physiol **57** *135 152 1921*

14 Marine David and Baumann E J Influence of Glands with Internal Secretion on the Respiratory Exchange III Effect of Suprarenal Insufficiency in Thyroidectomized Rabbits, Am J Physiol **59** *353 368 1922*

15 Stewart G N and Rogoff J M Quantitative Experiments on the Liberation of Epinephrin from the Adrenals after Section of Their Nerves with Special Reference to the Question of the Indispensability of Epinephrin for the Organism J Pharmacol & Exper Therap **10** 1 48 (comparé p 3) 1917

16 Cannon W B and Rapport D Studies on the Conditions of Activity in Endocrine Glands VI Further Observations on the Denervated Heart in Relation to Adrenal Secretion Am J Physiol **58** 308 337 1921

17 Boothby W M and Sandiford I Calorigenic Effect of Adrenalin in Dogs Am J Physiol **59** 465 464 1922

18 Cannon W B Bodily Changes in Pain Hunger Fear and Rage New York D Appleton & Co 1915

19 Marine David and Lenhart C H The Influence of Glands with Internal Secretion on the Respiratory Exchange I Effect of the Subcutaneous Injection of Adrenalin on Normal and Thyroidectomized Rabbits Am J Physiol **54** 245 260 1920

of metabolism which follows the injection of epinephrin may be obtained in animals which have been previously deprived of their thyroid glands Similarly, we have shown that the reduced metabolic rate following suprarenalectomy under urethane and the stimulating effects of epinephrin when it is injected at a physiologic rate are demonstrable in animals either with or without the thyroid gland It is therefore clear that the thyroid gland is not an essential factor in the action of epinephrin on metabolism That the converse of this is true, that the suprarenal glands are not essential for the continued stimulation of metabolism by thyroxin, may be shown in the following manner The metabolic rate is raised above normal by the injection of thyroxin If the suprarenal glands are now removed, the metabolic rate does not fall to normal but is maintained at a high level for many hours, so that the high metabolic rate in hyperthyroidism is not dependent on the presence of the suprarenal gland or its secretions It is therefore fair to assume that the calorigenetic effects of thyroxin and epinephrin are distinct and not interdependent The time relations of their actions also differ distinctly Studies at the Mayo Clinic first revealed that the metabolic effects of the injection of thyroxin are manifest only after many hours and last for days Epinephrin, on the contrary, produces effects within minutes, not hours, and likewise loses its influence after a brief period All these facts have led me to the theory that there is a double endocrine mechanism for regulating the metabolic rate, that some of the acute fluctuations of basal metabolism may be ascribed to the influence of the suprarenal glands, and that the thyroid is more sluggish, but probably more important in its regulatory action [12] Such a mechanism would be analogous to the control of the acid-base equilibrium of the blood as demonstrated by L J Henderson, in which the lungs and kidneys share the burden, the lungs making the necessary immediate adjustments by the excretion of carbon dioxid, the kidneys, acting more sluggishly, by the excretion of phosphates

What is known about the way in which these hormones accomplish their metabolic effects? This is a field in which further investigation is needed Most work has been directed to determining the nature of the metabolic effects rather than to determining how they are accomplished But we do know some facts Thus it has been found by Lovatt Evans [20] that epinephrin will stimulate the isolated heart to more rapid contractions and to a markedly increased metabolism Recently, Martin and Armitstead have shown [21] that an isolated resting muscle has a higher metabolism, as denoted by acid production, when in the presence of epinephrin than when no epinephrin is present These two experiments point to the action of epinephrin as a direct one, capable of influencing metabolism by affecting peripheral muscle tissue directly, as Boothby suggested There is apparently no need of the central nervous system or of other internal secretions as accessories to its stimulating action, but it must work as a direct metabolic stimulant either on the nerve end plates or on the muscle cells themselves

No such clear evidence exists however, in support of the theory that the thyroid acts on cells by stimulating them directly to increased heat production It is, of course, a more difficult problem because there is so long a latent period before thyroxin manifests its effects, so that no rapid experiments can be made One might determine the metabolism of an isolated muscle then make the animal thyrotoxic and determine the metabolism of the opposite corresponding muscle This has not yet been done, so far as I know, so that the actual method by which the thyroid secretion stimulates metabolism is not yet known

The acute effects of a thyroid preparation on the isolated heart were studied by Richardson,[22] and later by Kakehi [22] in Asher's laboratory They could see no prompt effect from the presence of the thyroid alone on either the amplitude or the rate of the heart beat, but they did not study the metabolism It is probable that no immediate effect would be elicited, however, because of the latent period in the metabolic action of the thyroid Therefore, the theory of the general action of thyroxin directly on cells still needs an experimental basis We have, however, been able to study the metabolic effects of hyperthyroidism, particularly in regard to the roles played by activity, tremor and muscle tonus

Marie Krogh,[23] in a preliminary report published some years ago, suggested that muscle tonus might be the factor in the increased metabolism, and many have often thought, I am sure, that the striking evidences of muscular activity might explain the high metabolism in thyroid disease We studied animals rendered thyrotoxic by the injection of thyroxin Their metabolism rose in a few days to a level usually more than 50 per cent above their previous basal values When urethane anesthesia was then induced, and the metabolic rate again determined, it was found that the level remained high in spite of the fact that there was no muscle tremor and no activity other than cardiorespiratory movements If now the nerves to the limbs were cut the possibility of any tonus arising from either myelinated or sympathetic nerves was practically eliminated Even this procedure did not cause the metabolism to return to its original level It is therefore quite clear that neither activity nor muscle tremors nor muscle tonus explains the high metabolism found in hyperthyroidism

To show how fundamental are the metabolic effects of these two internal secretions, it is interesting to note, here that they may still be found under urethane anesthesia, although the metabolic stimulation from caffein or amino-acids has then disappeared [24] What the significance of this difference is, however, cannot be analyzed at present And so we return to the conclusion, often suggested, that the effects of both epinephrin and thyroxin on the metabolism are probably similar to that of increasing the draft under a fire This is fairly clearly established for epinephrin, but needs further evidence for the action of thyroxin It is true that the evidence brought forward in this paper has related largely to the two active substances which have been isolated from the thyroid and the suprarenals They probably have at least one more secretion that derived from the suprarenal cortex Extracts from it have had no acute effects on metabolism in our

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22 Richardson H B Beitrage zur Physiologie der Drüsen XXIV Wirkung innerer Sekrete insbesondere von Schilddrusensekret und Adrenalin auf das uberlebende Saugetierherz Ztschr f Biol **67** 57 82 1916 Kakehi S Beitrage zur Physiologie der Drusen XXV Fortgesetzte Untersuchungen uber die Wirkungsweise von Schilddrusen sekret auf das uberlebende Herz von normalen und schilddrusenlosen Tieren ibid **67** 104 1916

23 Krogh Marie The Influence of Thyroidin on Normal Metabolism Ugeskr f Læger **78** 2337 2340 1916

24 Aub J C Everett M R and Fine J Unpublished data

hands, and its function remains mysterious, although essential to life Whether it, too, has a metabolic function remains to be proved

CONCLUSIONS

1 Apparently, the two glands which most influence the total metabolism are the thyroid and the suprarenal (probably by epinephrin)

2 The mechanism of their actions are independent Collected evidence shows that the calorigenetic action of thyroxin is manifest without the suprarenals, that of epinephrin is present without the thyroids

3 The theory is advanced that the suprarenals exert acute effects, while the thyroid is the more sluggish regulator of the metabolic rate

4 The method of action of thyroxin and epinephrin on the body tissues has been discussed

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HYPOFUNCTION AND HYPERFUNCTION OF THE DUCTLESS GLANDS*

A J CARLSON PH D M D
CHICAGO

It is difficult, if not impossible, to present the subject of endocrine dysfunction in a brief article, without appearing to be both ignorant and dogmatic, ignorant of many alleged facts, because time does not permit giving the reasons for their rejection, and dogmatic because practically every statement made in regard to the ductless glands today requires qualification, which is, for the most part, ruled out by the time limit Furthermore, I take part in this discussion with the diffidence of a man whose personal experience is limited largely to the experimental side of the subject However, I have a fair acquaintance with the entire endocrine literature, in both the field of science and the field of fiction, and I take for granted that we all subscribe to the principle that the rules of evidence or criteria for facts are the same in the experimental and in the clinical fields

HYPOFUNCTION

When the ductless glands are so situated that they can be surgically extirpated, in whole or in part, without injury to important adjacent organs, the extirpation of these glands in the healthy animal gives us the most reliable information regarding the results of hypofunction of each specific system The hypofunction syndrome may be complex and may gradually involve endocrine organs other than those extirpated, but the initial cause can with certainty be referred to absence of the function normally carried out by the organ which has been removed This ideal anatomic condition obtains in the case of the thyroids, the parathyroids, the pancreas, the thymus, the ovaries and the testes In most animals, the cortex and medulla of the suprarenal glands are so closely fused that it is difficult to extirpate the one without grave injury to the other This applies also to the two (or three) systems that make up the pituitary gland Furthermore, the location of the pituitary and the pineal glands within the cranial cavity and close to the midbrain renders it difficult to extirpate these organs without injury to the base of the brain, and tumors or cysts in these glands practically always involve brain injury by pressure

Extirpation experiments in healthy animals have thus established the following general facts

Loss of the thyroid is followed by cretinism in the young and myxedema in the adult But it should be noted that some of the myxedema symptoms following hypothyroidism in man are not readily produced even by complete thyroidectomy in the healthy adult animal

Loss of the parathyroids induces depression, tetany and death in a few days, unless the animal is subjected to special dietary and diuretic control

Loss of the pancreas leads to absolute diabetes and death from diabetes (in the dog) in from four to seven weeks

Loss of the testes is followed by persistent sexual infantilism in the young, and in the adult by loss of the sex urge and sex functions, and by gradual atrophy of most of the secondary sex characters

Loss of the ovaries results in persistent sex infantilism in the young and in premature menopause and gradual atrophy of most of the secondary sex characters in the adult

Loss of the suprarenal medulla induces no symptoms and no disease, according to the most reliable observations

Loss of the suprarenal cortex causes profound prostration and death within a few days, in what appears to be acute Addison's disease

Loss of the posterior lobe of the pituitary gland appears to produce no definite symptoms There are competent investigators claiming that this lesion induces diabetes insipidus and disturbance of metabolism while equally good workers hold that diabetes insipidus is caused by injuries to the base of the brain outside the hypophysis The question is not settled

Loss of the anterior lobe of the pituitary gland appears to produce impairment of growth and infantilism in the young, and in the adult a tendency to adiposity and somnolence, with atrophy of the gonads and failure of sex functions According to one group of investigators, complete extirpation of the anterior lobe leads to death, in profound depression in a few days, while another group of equally competent men claim that such deaths are due, not to the loss of the gland, but to injury to the base of the brain This question is open But all workers are agreed that almost complete loss of the anterior lobe (including unavoidable injuries to the base of the brain) leads to hypopituitary infantilism, at least in a percentage of the animals so operated on

Extirpation of the pineal gland causes no symptoms The loss of the spleen or the duodenum is also without endocrine effects Extirpation of the thymus produces no effect, except perhaps slight hastening of adolescence in the young

Time does not permit a further analysis of the hypofunction syndromes just outlined The hypothyroid and the hypopituitary syndromes are particularly difficult to evaluate or diagnose because of the variability of some of their major elements We must, therefore, clearly recognize that while the terms cretinism, myxedema or hypopituitary infantilism are permissible and useful in relation to primary etiology, these terms cannot be used as formulas representing facts established, and hence as a certain basis for therapy A cynical judge once asked, "What is truth?" but did not tarry for an answer The question, What is hypothyroidism or hypopituitarism may be laughed out of

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court as "academic," or as already settled by this audience of "practical men", but I raise it nevertheless as a challenge to those who would sacrifice honesty for short cuts to commercial success, and those who would practice the trade of the quack under the protecting cloak of membership in an honorable profession

These extirpation experiments on healthy animals, from embryos to adults, permit the following generalizations

1 Each system of ductless glands appears to be essentially identical in function in all classes of vertebrates This fact renders it highly probable that corresponding glandular hypofunctions in man will induce similar syndromes We know that this is the case in regard to the gonads, from the effects of gonadectomy in healthy men and women

2 None of the ductless glands appear to work to full capacity under normal conditions, since from three quarters to seven eighths of each gland system may be removed in the healthy animal without producing any deficiency symptoms This is a very disturbing factor in the clinical field when we attempt to relate the histopathology of the ductless glands to the patient's disease

3 No matter what changes in the way of atrophy or hypertrophy may be induced in the remaining ductless glands on extirpation of any one gland system the essential effects following distinct hypofunction of each gland system appears to be specific for that system In other words, extirpation experiments on healthy animals afford little or no evidence of substitution or vicarious functioning by the ductless glands that remain in the animal

4 The symptoms produced by the extirpation of the ductless glands in healthy animals can be interpreted either on the hormone theory or on the detoxication theory

5 No chemical methods are at present available by which we can demonstrate the presence of hormones and their quantitative variations in the blood and tissues, or even in the glands themselves The iodin in the thyroid appears to be somewhat of an index of the thyroid secretion We can make iodin determinations of the blood, the lymph, and the other tissues of the body, but we cannot conclude that the iodin found represents thyroidin and this only We have chemical tests for epinephrin but epinephrin is probably not a hormone

In regard to the possibility that some, if not all of the ductless glands may work on the principle of detoxication, it is equally true that we have no chemical tests for the toxins in the blood and tissues that may be responsible for the hypofunction syndromes except possibly in the case of the parathyroids Recent work seems to demonstrate that the tetany and death following extirpation of the parathyroids are due to toxic protein derivatives produced by the action of the colon group of organisms on the animal proteins of the food Some of these toxic protein derivatives can be chemically isolated The foregoing facts may be stated positively by saying that so far, the tests for hypofunction of the ductless glands are indirect or biologic

6 The relative immunity of some individuals to complete or nearly complete extirpation of some of the ductless glands is usually explained by the age factor (the young being less immune) and by abberrant or accessory glandules That accessory glandules of some of the systems frequently occur is well known, but we question the adequacy of these explanations for all the exceptions

In the clinical field, results fairly comparable to those following extirpation of endocrine systems in healthy animals are produced by clearly destructive lesions in single gland systems Such lesions as tuberculosis cystic degeneration fibrosis, or atrophy, when including all or nearly all of the glands, are practically equivalent to extirpation with the knife, provided the lesions are strictly localized Such strict limitations of destructive lesions are rarely found in postmortems, especially in persons past from 30 to 40 years, but when they are established, we have what may be called frank hypofunction, and the etiology of the syndrome is just as clear as in total or partial extirpation of a one gland system in healthy animals In this way, the combination of careful clinical observations and postmortem studies have proved that hypothyroidosis and athyroidosis lead to cretinism and myxedema, that total or nearly total destruction of the suprarenal cortex leads to Addison's disease and death, that sufficient cystic degeneration of the hypophysis is followed by infantilism and that marked destruction of the pancreas induces diabetes Castration and spaying produces the same effects in man as in experimental animals with the additional factors of nervous disturbances of the menopause and, probably, in some males purely subjective effects in the way of feelings of regret or melancholia

There is no reliable evidence that hypofunction of the suprarenal medulla induces deficiency symptoms The theory of "suprarenalemia" as a clinical entity or disease is an illustration of where mere logic may lead us when the major premise is an error

The foregoing clinical conditions may be designated as frank hypofunctions of the ductless glands, and when the gland lesions approach complete destruction or atrophy, diagnosis can usually be made with a fair degree of certainty I make this statement with a good deal of hesitation, particularly in connection with the thyroid and the hypophysis Most of us have accepted as demonstrated facts the view that the thyroid secretion has a direct stimulating action on the basal metabolism, and that increase or decrease of the thyroid secretion in the body can be demonstrated by changes in the metabolic rate, at least as early and as clearly as any of the other changes in body functions that are supposed to be due to quantitative changes in the thyroid secretion But now come apparently reliable clinical reports to the effect that (1) so-called hyperthyroidism or toxic goiter may be present with a normal metabolic rate, and (2) hypothyroidism or myxedema may be present and parallel with a high a low or a normal basal metabolism If these are facts it is clear that the present basal conceptions of thyroid physiology must be revised But first let us make sure that these new observations are really facts And in the meantime, let us be still more careful in the diagnosis of clinical hypothyroidism and hyperthyroidism

If our foundation is so shaky in clinical cases of what appears to be frank hypofunction of the ductless glands, what can we expect in only slight degrees of hypofunction? Here we have no aid from the macroscopic and microscopic conditions or chemical analysis of the glands, as such conditions are chronic rather than speedily fatal, and even when the glands or part of a gland is available for study, the interpretation of the histologic findings is mostly conjecture

The other serious difficulty in the recognition of slight degrees of endocrine hypofunction is the fact that, in the case of some of the endocrine systems, the hypofunction must be considerable before the syndrome becomes clearly specific. This applies particularly to most of the nervous manifestations of endocrine hypofunction. Slight nervous disorders, slight gastro-intestinal disorders, slight disorders of metabolism, slight disorders of the sex life, seem to be produced by conditions in which evidence for primary endocrine etiology is lacking.

ALLEGED ENDOCRINE HYPERFUNCTION

The question of endocrine hyperfunction is not of as great importance in medicine as that of hypofunction, in view of our present knowledge. Hyperfunction must, of course, be considered in connection with the alternative theory of dysfunction or toxic secretion. The question of hyperfunction has no meaning or application in glands that work by detoxication.

1. Spontaneous endocrine hyperfunction is unknown in experimental animals. Much work has been done in the attempt to produce experimental hyperthyroidism in animals by thyroid feeding. Large doses of thyroid extract produce some of the symptoms of toxic goiter, such as increased metabolism, tachycardia, emaciation and gastro-intestinal disturbances. The nervous and ocular manifestations of toxic goiter are not produced.

2. In man, endocrine hyperfunction is assumed by many people as a causative factor in

(1) *Toxic goiter (the thyroids)*, (2) *acromegaly* (the hypophysis, anterior lobe), (3) hypertension (the suprarenal medulla and the thyroids), (4) precocious puberty (the suprarenal cortex, the hypophysis and the pineal gland), (5) diabetes (the thyroid), (6) excessive sex urge (the gonads), (7) excessive menstruation (the ovaries or the corpus luteum).

Now, what are the facts? In the first place, mere increase in the size of glands, mere hyperplasia, does not mean more gland activity or more secretion. We have thyroid hyperplasia and thyroid adenomas without physiologic disturbances, yet the size, structure and chemistry of the thyroid appear identical to these facts in toxic goiter. Biologic and chemical tests of the blood at present are not delicate enough to detect the thyroid secretion or quantitative variations of the secretion. The colloid and iodin of the thyroid is usually reduced in toxic goiter, but this is also the case in thyroid hyperplasia associated with no toxic symptoms. Furthermore, the reduced quantity of iodin, thyroglobulin or thyroxin in the gland may mean that the gland is producing more secretion, it may also mean that the gland produces less secretion. It is a fact that excessive thyroid feeding induces in man some of the symptoms of toxic goiter. Apart from this, the results of medical and surgical management of toxic goiter can be equally well explained on the basis of a toxic or perverted secretion. This theory, moreover, is not inconsistent with the existence of myxedema and toxic goiter symptoms in one person at the same time. This condition is difficult, if not impossible, to explain on the theory of hypersecretion. The primary relation of exophthalmic goiter to the thyroid may not be cleared up until complete thyroidectomy is made in a well controlled series of patients having toxic goiter. I believe this can be done without harm to the patient, if one or two parathyroids are spared or the parathyroprival symptoms are controlled by diet and diuresis and possible myxedema controlled by thyroid feeding. There are plenty of patients with toxic goiter showing little or no improvement on either surgical, roentgen-ray or medical therapy. Such patients would probably be better off with some myxedema than with severe exophthalmic goiter, and the medical profession would have taken a step forward through knowing with certainty the primary relation of the thyroid to toxic goiter.

We encounter similar difficulties in the relation of pituitary hyperplasias and tumors to acromegaly. We know for a fact that hypophysial adenomas or hyperplasias are associated with acromegaly, just as thyroid hyperplasias are associated with exophthalmic goiter. But the causal connection between the gland enlargement and the disease is obscured by the fact that we have hypophysial hyperplasias and tumors with acromegaly, and acromegaly without tumors of the hypophysis. Nothing resembling acromegaly has so far been produced experimentally by administration of hypophysial preparations. And the final difficulty is the condition of unilateral acromegaly, a fact that appears irreconcilable with the simple excess hormone theory of causation.

We may now ask whether any of the disorders of the sex life have been found to be due to hyperfunction of the gonads? If we could uncover the processes of life by logic alone, we might conclude that, since gonadectomy or frank gonad hypofunction decreases or abolishes nearly all manifestations of sex, excessive manifestation of the sex urge, of menstruation and of the nervous activities more or less specific for sex life are due to hyperfunction of the gonads. There is little or no support for such a conclusion from either the clinic or the laboratory. It is true that ovariectomy will stop menorrhagia, just as it will stop normal menstruation. Does that prove that menorrhagia is caused by ovarian hypersecretion? Not at all. The menstrual disturbance is just as readily explained by the action of qualitatively and quantitatively normal ovarian hormones on mechanism rendered hypersensitive by other factors. Given otherwise normal men and women, a hundred ovaries and a hundred testes instead of two would probably not increase the menstruation or the sex urge above the normal.

The question of toxic ovarian secretion has been raised in connection with osteomalacia. We have reports of cure of this malady by ovariectomy, also reports of failure of cure by ovariectomy. It is an open question. There is no evidence that the normal ovarian hormones have any special influence on the health of the bones.

The question of hyperfunction has also come up in connection with hyperplasia of the thymus, and with tumors of the pineal gland. Since extirpation of these glands produces no effect, it is difficult to conceive just how hyperactivity of the glands might cause disease, especially if the thymus gland works by the method of detoxication. Pineal tumors might cause far reaching effects by mechanical pressure on the midbrain.

ALLEGED HYPO-ACTIVITY AND HYPERACTIVITY OF THE DUCTLESS GLANDS THROUGH DISTURBANCE OF THE NERVOUS SYSTEM

We have the following possibilities. 1. The endocrine glands may be under complete control of secretory nerves, like the salivary and the lacrimal glands, in which case we would expect hypofunction and atrophy to follow denervation. 2. They may have no secretory

nerves, but may be controlled by the composition of the blood, as the kidneys are In this case, the effect of denervation cannot be predicted There may be hyperactivity, hypo-activity or no change in activity 3 They may be controlled in part by secretory nerves, in part by the composition of the blood like the glands of the stomach In this case also the effects of denervation might be zero These appear to be the facts

1 Sectioning of all the nerves to the ductless glands produces no demonstrable effect on the body functions, and no significant changes in the glands The suprarenal medulla seems to constitute an exception to the second part of this statement Denervation of the suprarenals induces no disturbance of body functions, except in the output of epinephrin This is decreased or completely stopped This shows that the output of epinephrin is under the control of vasomotor or true secretory nerves It also shows that epinephrin is of little or no importance as a hormone

2 Vasomotor nerves appear to be present in all the endocrine glands, and by histologic methods nerve filaments have been traced to or in close proximity to the gland cells themselves In some of the glands, notably the pancreas, numerous ganglion cells are present in the peripheral nerve net The suprarenal medulla, the posterior lobe of the pituitary and the pineal glands are modified nervous tissues, and these glands may retain some of their original nervous connections

3 What effects are produced by artificial stimulation of the nerves that go to the endocrine glands? Direct stimulation of the peripheral end of the splanchnic nerves augments the output of epinephrin, and ultimately exhausts the suprarenal medulla of epinephrin The question of reflex and central control of this suprarenal nervous mechanism is unsettled Competent investigators have reported absolutely contradictory results, and clinical opinions bearing on the question are mere guessing This is the only securely established instance of nervous control of a possible endocrine gland, but the output controlled by the suprarenal nerves has yet to prove its right to be classed as a hormone

The methods used in the attempts to demonstrate nervous control of the hypophysis have been shown to be unreliable We have a mass of data, most of it contradictory, and the remainder not yet confirmed, on the nervous control of the thyroid activity We may disregard the histologic reports and the alleged surgical cure of toxic goiter by section of the thyroid nerves (the cervical sympathetic) The change of iodin content of the gland on stimulation of the thyroid nerves is questioned, and even if such change should be conclusively established, the interpretation of the fact is uncertain But there are two lines of experimental evidence that require serious attention It seems to be a fact that stimulation of the thyroid nerves induces changes in the electrical potential in the gland (usually increased negativity but sometimes positivity) Similar experiments (pituitary injections) on the mammary glands have been reported as proving that pituitary extract causes secretion of milk The electrical change following administration of pituitary extract is due to contraction of the smooth musculature of the mammary glands Before the electrical variations in the thyroid gland on stimulation of the thyroid nerves can be accepted as proving the nervous control of thyroid activity, it must be shown that the electrical change is not induced by the contraction (or relaxation) of the arteries, capillaries and veins in the gland It is further reported that stimulation of thyroid nerves and mechanical massage of the thyroid gland in cats under light ether anesthesia accelerates the denervated heart Massage of the thyroids for two minutes is reported to accelerate the heart for from thirty to ninety minutes after a latent period of from fifteen to twenty minutes The investigators state that the experiment does not succeed in the months of March and April The experiment, when successful, is interpreted as showing that mechanical massage and nerve stimulation increase the output of the thyroid hormone, which in turn accelerates the heart indirectly by increasing the body metabolism It is pointed out as supporting evidence that mechanical massage of the suprarenals increases the output of epinephrin We may note as equally true that mechanical massage of the kidneys the pancreas, and the salivary and gastric glands does not stimulate these glands to increased activity The failure of the experiment in March and April is puzzling, as no one has shown any seasonal variations in the thyroid hormone of the cat If the cat's thyroids are shy of iodin in March and April, such deficiency can easily be remedied by feeding iodids But the most serious difficulty in accepting the positive findings as evidence of nervous control of thyroid activity is the prompt appearance and rapid cessation of the cardiac acceleration, the whole reaction being over within one to two hours, while it appears that a single intravenous injection of large or small doses of Kendall's thyroxin (a product assumed to be pure thyroid hormone) is reported to have no effect on the metabolism during the first twelve to twenty-four hours then the increase in basal metabolic rate begins, reaches its maximum increase in from three to seven days, and slowly subsides to normal in from three to six weeks This, if true, is surely a different reaction from that described as following the massage of the thyroid or stimulation of the thyroid nerves

The question of endocrine hypofunction and hyperfunction through direct nervous control is of great practical and theoretical importance But despite the great amount of painstaking work in this field (and disregarding the still greater amount of speculation), it must be recognized that the entire question is an open one, except for the suprarenal medulla Let us hope that the future will record better controlled observations and less speculation But it seems to me that this statement is permissible Endocrine secretory nerves, if present, play a minor or negligible role in the normal and pathologic activity of the glands, otherwise demonstrable disturbances should be produced by denervation of the glands It should, of course, be recognized that extreme changes in nervous activity may induce endocrine hypofunction or hyperfunction indirectly or by way of the blood through changes in metabolism

ENDOCRINE HYPOFUNCTION AND HYPERFUNCTION THROUGH MUTUAL STIMULATION OR INHIBITION OF DIFFERENT ENDOCRINE GLANDS

In this field appears the maximum of fiction and the minimum of established facts The principal facts are these

1 It appears that the ovaries and testes (at least in mammals) cannot develop or maintain their normal function in marked hypothyroidism or marked hypopituitarism

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2 Thyroidectomy and, in some species at least, gonadectomy induces some hyperplasia of the hypophysis

3 Thyroid feeding in experimental animals over long periods appears to induce some hyperplasia of the suprarenals (and the hypophysis), but this has probably no direct endocrine significance, because the thyroid feeding causes at the same time hyperplasia of the heart, the liver, the spleen and the kidneys

4 Hypertrophy of the parathyroids has been described in thyroidectomized tadpoles

5 In some cases, tumors of the suprarenal cortex seem to hasten maturation of the gonads, and gonadectomy may be followed by hyperplasia of the suprarenal cortex

6 Castration retards the involution of the thymus This may mean that hormones from a mature gonad are directly or indirectly responsible for the postadolescence involution of the thymus It has no further endocrine significance, since evidence is lacking for any endocrine activity of the thymus itself

7 It is reported that crushing the suprarenal cortex induces a temporary fever, and that the latter is aborted by thyroidectomy Assuming this to be a fact, it might indicate a stimulating action of the suprarenal cortex on the thyroid, inasmuch as complete suprarenalectomy does not induce hyperpyrexia But crushing the suprarenals is not a simple experiment, and we must await further work before the results can be clearly interpreted in the sense of mutual endocrine control It may be noted in this connection that the feeding of suprarenal, that is, cortical residue or extract, is reported as a cure of toxic goiter If toxic goiter means thyroid hyperactivity, this may indicate inhibitory action of the suprarenal cortex on the thyroid But all of us know that the "cures" for mild cases of toxic goiter are legion, and severe cases may resist all available therapy, including rest and diet

If the foregoing facts are restated in terms of endocrine interdependence, the situation is this The failure of gonad function in hyperthyroidism is probably due to the profound distribution of metabolism In cretinism and myxedema, there is evidence of degeneration or atrophic changes in most of the organs of the body It is well known that depression of the gonads is a frequent effect of metabolic disturbances from faulty diets, as well as from chronic maladies resulting in cachexia The failure of gonad function in frank hypopituitarism may also be due to the general impairment of growth and metabolism, but this is less certain, because the disturbance of metabolism in hypopituitarism appears to be less profound than in hypothyroidism *But we are not justified in interpreting* the fact in the sense of a direct stimulation of the gonads by pituitary hormones, since pituitary feeding seems to have no influence on gonad development, and acromegaly itself may be accompanied by gonad depression rather than the reverse The possible significance of the hyperplasia in some ductless glands following hypo-activity or hyperactivity in another gland system will be considered in a later section At present, there is no evidence that hypo-activity or hyperactivity of any endocrine system, outside of the specific gland involved, can produce or prevent diabetes, myxedema, Addison's disease, infantilism or acromegaly Despite this fact, the thyroid-pituitary-pancreas-suprarenal-gonad group will probably continue to be a favorite exercise ground for speculative physiology and therapy in regard to mutual hormone control

THE QUESTION OF HYPERFUNCTION IN CASES OF GLANDULAR HYPERPLASIAS

There is a tendency among both laboratory workers and clinicians to interpret glandular hyperplasias, that is, increase in gland volume by increase in the number of apparently normal cells, as evidence of glandular hyperfunction This interpretation is also applied to adenomatous hyperplasias, especially of the thyroid, the pituitary gland and the suprarenal cortex We must recognize that on the anatomic and histologic basis alone this interpretation is a theory that may be 100 per cent correct or 100 per cent wrong We have some reliable histologic criteria of the state of secretory rest and secretory exhaustion in the case of the digestive glands, and previous degrees of activity of the digestive glands can be inferred by the degree of depletion of so-called secretion granules, but it must be recognized that this correlation of histologic changes with the state of activity would have been purely theoretical even for the digestive glands, except for the fact that we have a direct measure of the activity of the digestive glands in the output of the digestive juices As previously stated, we have no certain means of directly measuring the rate of output or concentration of the hormones in the blood, except epinephrin, and this is not an important hormone, if it belongs in that group at all Hence, we are limited to attempts to correlate gland histology with body symptoms that may or may not be specific effects of hyperactivity or hypo-activity of the gland in question We have microchemical tests for iron, glycogen, fat, etc, in the cells, but none for the hormones

It appears that thyroid colloids can be stained inside the thyroid cells, but we do not know the relation of thyroid colloid in the cells or in the lumen of the gland to the rate of output of thyroid hormone Diagnosis of toxic goiter from the structure of the thyroid or the thyroid adenoma alone is, at present, merely guesswork

In the same way, variations in kinds and numbers of cells or granules in the cells in tumors and hyperplasias of the hypophysis, particularly if the studies are made on ordinary postmortem material, permit no conclusion as to hyperfunction And the situation is scarcely better in regard to the relation of the pancreas to clinical diabetes Postmortem examination reveals a high percentage of pancreatic lesions in persons having no diabetes The hydropic degeneration of island cells usually found in the pancreas of diabetic patients is regarded by some as one of the *effects* of the diabetes It is generally agreed that many cases of fatal diabetes could not have been diagnosed by the histology of the pancreas alone It is probable that increase or decrease in some cell functions antedates structural changes in the cells as revealed by present methods

In recent years, much attention has been given to the endocrine glands as related to various types of nervous disorders The difficulties in this field are increased by the fact that we have as yet no reliable method of studying functional nervous disorders in animals under experimental interference with the ductless glands By the law of chance, some endocrine disturbance will be present in a certain percentage of insane persons, even if there is no causal relationship between the two phenomena The literature records a high percentage of what appears, microscopically to be pathologic endocrine changes in necropsies of such patients The significance of such pathologic

endocrine changes (mostly hypoplasia or atrophy), in the cause and course of the nervous disease, is most uncertain, especially when physical or physiologic signs of specific endocrine dysfunction are lacking Such endocrine changes may have no more significance than the high percentage of destruction in the pancreas in persons past middle life, dying from diseases other than diabetes

We have examples of endocrine therapy in nervous disorders that display the courage of ignorance I do not know what you think of suprarenalectomy as a cure for idiopathic epilepsy, but for the present I would leave the suprarenals alone and operate on the patient's pocketbook by some other route

Has, then, the microscope ceased to be a useful tool in biologic investigation? On the contrary, let the tribe of microbiologists increase But I plead for greater discernment in the physiologic interpretations of microscopic findings

THE EVIDENCE FOR ENDOCRINE HYPOFUNCTION AND HYPERFUNCTION FROM THE FIELD OF ORGANOTHERAPY

Except for the condition of hypothyroidism, the extensive literature on clinical and experimental organotherapy has so far yielded little or nothing conclusive touching endocrine dysfunctions This should cause no surprise Organotherapy can have no effect in maladies due to dysfunction of ductless glands that function on the principle of detoxication And in the case of glands that function by producing hormones, organotherapy may fail now and forever, (1) if the hormones are not stored up in the gland, (2) if they are too unstable for the necessary chemical processes of isolation for intravenous or hypodermic administration, or (3) if, on oral administration, they are destroyed in the processes of digestion and absorption

With the exception of the thyroid hormone, and the drugs epinephrin and pituitary extracts, we literally do not know what we are feeding when hypophysis suprarenal, testes, ovaries, pancreas or parathyroid preparations are administered to patients Moreover, the specific endocrine factor in the malady in which organotherapy is tried is often a matter of conjecture That is to say, we are administering "unknowns" to cure diseases of unknown origin

Organotherapy has been tried in literally every disease known to man Except for the thyroid, the results are so conflicting that they seem to depend not on drugs, but on the physician who prescribes them Fifteen years ago, Pohl's spermin or testicle extract was a cure-all in Russia, today, pluriglandular proprietaries are doing even greater wonders in our country, according to the testimonials Let us keep a few things clearly in mind in this connection

1 So far, it has not been possible by organotherapy to appreciably influence the impaired functions due to gonadectomy, ovariectomy, parathyroidectomy, pancreatectomy[1] or hypophysectomy in animals In these cases, we know at least the initial pathology, even if we do not know what we are feeding in the gland extracts

2 The history of medicine and of quackery teaches honest men to be slow in ascribing specific values to any therapeutic measure that seems to improve subjective symptoms, or to cure in the field of the functional nervous diseases

3 The trial-and-error method, or empiric organotherapy, is a legitimate path to follow But I think you will agree with me that it is not a path of progress when the trials are so made that *nothing but error* can result from them The trial frequently consists in improved diet, rest, and gland extracts, the error is the conclusion that the gland extract is responsible for the improvement of the patient Let us not forget that thyroid administration, even in frank hypothyroidism, is in many cases not a complete substitute for the normal thyroid And thyroid therapy is our best, if not our only case

It is scarcely necessary to refer to the ease and assurance with which alleged endocrine disorders are diagnosed and treated with gland extracts by men of good standing in the medical profession Some aspects of the literature on glandular extract therapy today remind one of the age of demonology in medicine Following are four typical citations, not from Alexander Dowie, Louis Berman or Mary Baker Eddy, but from our respectable medical journals

> Clinical studies have proved that certain physiologic and structural markings are constant to certain glandular types and by physical objective examination alone without other information we can make an accurate diagnosis
>
> The alert aggressive attitude of the healthy young man and the similar though feminized, pose of the healthy young woman are in large part an evidence of thyroid activity The tremors and blushes *the sentiment of the young woman* the nervous apprehension of the young man under emotional stimulation are also largely evidences of thyroid activity The blushing of the sensitive young girl or boy is but a neurocirculatory reflex exaggerated by thyroid overactivity into the neurocirculatory instability of the definitely hyperthyroid patient
>
> Periods of great emotional output such as courtship, early months of marriage and the more active phases of an artist's career are accompanied by enlargement of the thyroid
>
> There is also something closely allied to a diminished action of the thyroid gland that renders the old maid less generous and less spiritually beautiful than the pregnant woman

EVIDENCE OF ENDOCRINE HYPOFUNCTION AND HYPERFUNCTION FROM THE FIELD OF ROENTGEN-RAY THERAPY

The destructive action of the radium and the roentgen rays on tissues is well established, and it is well known that atrophy and hypofunction of such organs as the thyroid, the ovaries and the testes can be induced by these agencies On the theory that doses of roentgen rays too slight to destroy, will stimulate and thus increase the normal functions of glands, the pancreas has been roentgen rayed in diabetes, the hypophysis in Frohlich's syndrome, etc Positive results have been reported, despite the fact that careful experiments on glands, where the activity can be measured with quantitative and qualitative accuracy, have shown only destructive actions by the roentgen ray An almost miraculous result is reported in the case of a 15 year old boy with some Frohlich's syndrome signs "After four roentgen-ray irradiations of the hypophysial region, the penis grew 8 5 cm in three months" Evidently we are witnessing the beginning of a race between roentgenologists and surgeons as harbingers of virilism

The possible stimulating action of radiant energy on the ductless glands should be tried but tried under conditions that permit the evaluation of the results At present, we do not possess any certain means of

1 Work in progress at the University of Toronto seems to promise more positive results from the pancreas hormone in experimental diabetes

stimulating any ductless gland, "gently" or otherwise, except possibly through the food, and this is probably not specific. Those who speak with such ease and assurance of "stimulating" this, that or the other endocrine gland are merely giving a demonstration of their ignorance.

THE ETIOLOGY OF ENDOCRINE APLASIA AND HYPERPLASIA IN MAN

Destructive lesions of the endocrine glands, such as tumors, tuberculosis, cystic degeneration and fibrosis, are not peculiar to these organs, and consideration of the etiology of these lesions would take us too far afield.

Factors that may be primary in other aplasias and hyperplasias are *heredity, undernutrition, intoxication* from deranged metabolism (qualitative and quantitative) and infections (specific and general).

The possible hereditary factors have not yet been seriously investigated.

Some of the ductless glands appear to be readily disturbed by undernutrition, or unbalanced diets. It is fairly certain that some iodin in the food is necessary for the normal activity of the thyroids. There is considerable literature pointing toward infection as the primary factor in certain types of thyroid hyperplasia. But the question is still open. It is possible that endocrine aplasias and hyperplasias are induced by a variety of factors. Research in this important and difficult field is being neglected in comparison with the amount of attention devoted to the less difficult and more spectacular (and remunerative) administration of gland products.

CONCLUSION

No single phase of endocrine dysfunction is satisfactorily worked out today, either clinically or experimentally. I have endeavored to present the established facts and what appear to be obstacles to progress in baseless speculations and uncritical practice. I am not foolish enough to believe that the former is free from flaws, and some of you may feel that my strictures on the latter are too severe, especially coming from an experimental physiologist. But I have not spoken as a pharisee or as a mere arm-chair iconoclast. The credit for progress made and the blame for errors committed are shared by the clinical and laboratory groups. I leave out of consideration the hopelessly ignorant and the actually dishonest who, no matter what their position and training, belong to the genus *quack*. One sure way of inviting defeat is to underestimate the resourcefulness of the enemy. Failure to recognize the complexity of every endocrine problem is an equally serious obstacle to victory. In following the hormone theory alone, we may, in the case of some of the ductless glands, even be way off the main road.

I believe that much of the glandular therapy of today, however harmless to the patient, injures the good name of the medical profession with intelligent laymen. We cannot practice quack methods and escape the just censure of society.

The quack diagnoses every ailment with ease, and offers remedies for every disease with assurance. The good physician knows that he is neither omniscient nor omnipotent in the field of disease, and the educated layman knows this as well as the physician. Then, why pretend? Bluff may succeed for a time, but honesty is better for society, and what is best for society is best for the medical profession. It is related, in the most ancient medical record now known, the Smith Papyrus, that the good physician in Egypt 5,000 years ago practiced medicine with the same honesty and the same quality of intelligence as that of the good physician of today. When physicians of that age knew, or thought they knew, that no available remedy would help the patient, they did nothing, while the quack worked his "cures" with the hookums of that age.

SOME PRINCIPLES OF ENDOCRINOLOGY APPLICABLE TO ORGANOTHERAPY*

R. G. HOSKINS, PHD., M.D.
Professor of Physiology, Ohio State University College of Medicine
COLUMBUS, OHIO

In a field of biology the bibliography of which runs to 500 pages, the need for the formulation of principles might be expected long since to have passed.[1] To any one conversant, however, with the endocrine literature, it is obvious that no general agreement on principles—and hence on practice—has yet been reached.

Endocrinology is to an unusual degree an empiric field. Our fundamental conceptions have been attained largely by clinical observations of end-results rather than by rational induction from basic facts determined, after the approved fashion, by controlled experimentation. Empiricism has deserved much of the odium that it carries. That it has a legitimate place in medicine, however, is tacitly conceded by every one who prescribes any medicament the pharmacology of which is not fully known. Indeed, it has often been said that the value of any procedure in medicine must finally be determined empirically in the crucible of the clinic. The figure is apt, but let us recognize that a crucible is not an open hearth into which junk may promiscuously be thrown, nor is the result of a crucible test determined by the amount of smoke and spluttering produced. The only empiricism that is of value is that which results in well substantiated facts. When these facts can be adequately systematized they become science, but as facts, they are no more true than they were before.

Much of the existing confusion in the endocrine field would appear to be due to overanxiety to escape the reproach of empiricism—to force rationalization when no genuine rationalization is possible. In such attempts, one class of writers habitually misuses the form of inductive logic, selecting from the vast accumulation of data such as appeal to them, and ignoring such as are inconvenient. Thus, their basic "principles" are derived. Any writer adopting this method has no grounds for complaint that his dishonesty in dealing with the data of others leads to the conviction that he is equally dishonest in dealing with his own. The device of attempting to escape the necessity of patience and thoroughness by dubious theorizing should be discarded. It has brought contempt upon much that passes as endocrine literature.

ENDOCRINE ORGANS AND THEIR FUNCTIONS

So far are we from accepted principles that it is not amiss, even at this late day, to inquire, What is an

* Read before the joint meeting of the Section on Practice of Medicine, the Section on Pharmacology and Therapeutics and the Section on Pathology and Physiology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. The bibliography of the fourth edition of Biedl's Innere Sekretion comprises 474 pages and many articles have appeared since the published list was completed.

endocrine organ? Gley has formulated three determining conditions The gland must show the histologic picture and the cytologic polarity of a secreting structure This principle at once excludes from the endocrine congeries the thymus gland and the neural lobe of the hypophysis, but these in many circles are still in good and regular standing A second principle is that from the organ in question an active substance must be obtained Such a substance may be, but probably is not, a hormone Final logical proof demands that the peculiar principle be detected in the effluent blood or lymph In case of nearly all the assumed endocrine structures, this last step remains yet to be taken

It is widely assumed that perturbed function in any one gland is characteristically followed by changes in others It is presumed that any endocrine gland may show a condition of normality, hyperfunction, hypofunction, dysfunction, dysfunction plus hypofunction, or dysfunction plus hyperfunction, that is, one normal and five abnormal states Theoretically there exist, therefore, five uniglandular syndromes for each endocrine organ The more enthusiastic endocrinologists assert the existence of at least nine endocrine organs, each of which presumably can assume any one of the six states The possible number of basic combinations, then, is six to the ninth power, or 10,077,696 One of these combinations is normality of all glands, hence the theoretical number of endocrinopathies is 10,077,695 If one is more modest and assumes the existence of only six glands, there are but a paltry 46,655 possible endocrinopathies [2] To what extent these may be modified by relationships of vicarious function, interstimulation and interinhibition of varying degrees, one cannot offer even an intelligent guess In any case, however, few of the theoretically possible endocrinopathies have ever been recognized clinically, and of these, still fewer have been reproduced experimentally When each factor in each syndrome can be recognized and appraised, clinical endocrinology will have become a science By that time even medicine as a whole may conceivably have become a science

SOURCE AND VALUE OF GLANDULAR PRODUCTS

Perhaps the most interesting immediate question to the practical endocrine therapist is, From what glands can active hormone products be derived? Judged by the "therapeutic test" in the hands of credulous impressionists, the number is extensive The number for which there is adequate proof is much smaller The proverbial "crucible" is still spluttering The most convincing evidence on this point is being obtained by investigators on tadpoles Seemingly, a healthy tadpole is vastly different from a sick woman Practically, the tadpole is a very delicate physicochemical indicator of the operation of factors that modify vital processes, and the determination of such factors is the primary problem of the endocrinologist

As to the clinical value of glandular products now available, much uncertainty exists There is great need of standardization of methods of manufacture and of assaying Even granted an endocrine function for a given gland, the quantity of hormone present at any one time may be very minute Moreover, even if it exists in relatively large quantities in the fresh gland, there is no certainty that it will not all be lost in the manufacture of gland products Furthermore, we know little as to the extent to which hormones are absorbed or destroyed in the alimentary tract It would seem wise for the present for the individual observer in practical work to adopt some one preparation of each gland and use that exclusively for considerable periods This would help to eliminate one of the variables that render the therapeutic literature so difficult to evaluate It would also be desirable, until the actual value of each product is determined, to use fresh gland substance, but this is usually impracticable It would be practicable, however, to obtain, in many cases, desiccated material that has not been subjected to any process of extraction or chemical treatment From the standpoint of the pharmaceutical manufacturer, such a suggestion is not attractive, but a large body of evidence regarding the efficacy of the unaltered gland substance is needed as a basis from which to determine the relative value of special products The ideal state will, of course, be reached when each active principle has been isolated and synthesized If organotherapy ever takes the place that *its more enthusiastic* proponents prophesy, the available supply of natural products will be vastly inadequate It is said, for instance, to require 5,000 calves to produce a pound of desiccated pineal substance

REACTIONS

Another question of major importance has scarcely as yet been even considered, namely, What conditions modify the reactions to any given hormone? In case of epinephrin, it has been shown that the vasomotor reactions are diametrically opposite, depending on initial blood pressure, bodily vitality and temperature, dosage, reaction of the menstruum, and depth of anesthesia In case of the thyroid there is evidence that change of dosage may reverse the reaction from anabolic to catabolic Pituitary extract causes or checks diuresis, depending on attendant conditions It is not unlikely that similar reversals of reaction will be found in the case of other gland products

In the case of products that influence growth, the normal occurrence of proliferative cycles is of considerable importance A given hormone might materially influence developmental processes at one time and be quite without influence at another

A principle worthy of particular stress is that a given endocrinopathy may be readily amenable to treatment in its earlier stages, but quite intractable, later Skeletal growth, for example, can no longer be influenced after closure of the epiphyseal junctures Early diagnosis and early treatment are therefore of the utmost importance

OBJECT OF ORGANOTHERAPY

Endocrine products may be prescribed with several purposes in view The most definite is merely to compensate additively for a deficient hormone Thyroid gland is thus administered for myxedema The possibilities of even this type of therapy, however, remain yet largely to be determined Hallion has suggested that gland products often act by stimulating the homologous gland This statement has been accepted by some writers as a biologic law There is some definite evidence in its support, but the extent of its applicability remains for future determination As to the usefulness of gland products to inhibit antagonistic glands, we have little significant information Desiccated pancreas is said to depress the activity of the suprarenal glands, but what is apparently meant is that it is a slowly acting vasodepressant If it be such,

2 I am indebted to my colleague Prof W M Barrows for this mathematical formulation of the situation

the substance may be of practical value, but there is little rational basis for regarding it as a suprarenal antagonist

The use of endocrine products for their purely nonspecific pharmacologic properties offers a promising field for further investigation The use of epinephrin and pituitary extract has been especially stressed As regards pituitary extract, the prevailing opinion of recent years has tended toward conservatism There are even extremists who would banish it from the field of obstetrics on the ground that the reactivity of patients varies so widely as to render it always potentially dangerous The sublingual administration of the drug, however, would seem largely to eliminate danger and to widen materially the indications for its use in any condition wherein a general smooth muscle stimulant is indicated Another promising field for therapeutic investigation is the utility of thyroid as a nonspecific drug The thyroid hormone appears to be a general cell stimulant, and hence to be widely indicated in conditions in which depressed functional activity is a predominant feature

DOSAGE

One of the most troublesome problems in organotherapy is that of dosage In addition to variability of products, the variability of patients is striking In current practice a given substance may be administered in quantities varying from a fraction of a grain to a hundred grains In case of the thyroid, basal metabolism affords a control It has been suggested that the dosage of desiccated hypophysis can be determined by the administration of increasing amounts to the point of producing headache, and then dropping to about half of this dosage Empirically, it seems to be fairly clear that alternate periods of administration and of rest give best results

At present there is much difference of opinion as to whether endocrine products should be prescribed singly or in combination Looking to the interest of humanity at large, present and future, single products should be employed whenever there is a reasonable chance of their proving helpful In this way only can we hope within any reasonable time to determine the independent value of each product Whatever be the intricacy of organ involvement in the various endocrinopathies, it is to be supposed that ordinarily some one gland is primarily at fault Biedl has stressed the fact that, with correct diagnosis on this point, uniglandular therapy may give brilliant results

On *a priori* grounds, however, if endocrine syndromes are, as many maintain, always, or even commonly, pluriglandular, more rapid amelioration might be expected if a suitable pluriglandular formula were used Practically, rational pluriglandular therapy would seem to demand a large number of different combinations, and these in differing proportions in each case, as indicated by the degree of involvement of each gland and the susceptibility of the patient

It has been suggested that the free use of pluriglandular formulas is desirable on the supposition that the body cells will select those hormones needed and discard the rest This theory apparently embodies a half truth That the various body cells do select from the blood stream the substances necessary for their metabolism is obvious the sphenoid bone and the vermiform appendix are fashioned from the same pabulum That the body cells are able to reject any hormone, however, I know of no evidence, whereas, it is known that hormones are often assimulated by body cells to their own detriment or even death In any unanalyzed syndrome, it would seem that a random hormone would be potentially harmful to the same extent that it would be potentially helpful

CONCLUSION

It seems desirable again to emphasize the complicated nature of the problems with which the endocrine therapeutist is confronted Little is to be expected from nonchalant attempts to solve these problems by superficial observations Nor can a thoughtful clinician take seriously the claim that overenthusiastic use of gland products is to the best interest of the patient The arguments adduced are precisely the stock arguments of the cultists and nostrum venders Ultimately, practical organotherapy will have to be reduced to a statistical basis This will require the accumulation of a much greater fund of well established observations, both positive and negative There is need for many more careful studies of individual cases as well as extensive series of cases Almost any endocrine case presents a research problem worthy of exacting study

Individual endeavor by volunteer investigators is making some headway, but progress is necessarily slow There is need for the founding of one or more well equipped and well financed institutions devoted specifically and in a large way to endocrine research Such an institution should include a hospital with personnel and equipment for bringing to bear the best modern diagnostic and therapeutic technic and especially for careful metabolic studies In association with this hospital there should be provided adequate facilities for coordinated animal experimentation

Endocrinology in some form is going to flourish indefinitely Parlor endocrinology is even displacing parlor Freudism For better or for worse, endocrinology has acquired a recognized place in the field of medicine For two decades practitioners have been avidly seeking enlightenment regarding the practical, everyday problems with which they are confronted As to how their needs have been met, let the present state of organotherapy testify The problems offered are such as to tax the best efforts of the best trained therapeutists Shall these gather their robes about them and pass by on the other side? To the extent that enlightened, critical leadership fails, to that extent will cheap, commercialized endocrinology have a large following, and medicine be cheapened to the same degree

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS BARKER CANNON AUB, CARLSON AND HOSKINS

DR WILLIAM ENGELBACH, St Louis As a whole, the symposium impresses one with the hypercriticism of those men who are seriously taking up the study of internal secretions It gives a good general perspective of the relative importance of the internal secretions The disorders of the ductless glands are only a small part of internal medicine, but this small, yet important, field has been greatly neglected The most dangerous thing that confronts clinicians is the early misinterpretation of pathologic endocrine signs present in many normal persons We each belong to a certain endocrine type, and we have to go farther than the establishing of a type picture to make a diagnosis of a ductless gland disorder For instance, if a person has headache and he happens to be of the acromegalic type it does not follow that the headache is of hypophysial origin There has to be more evidence of pituitary disorder before that relation can be proved The relation of the sympathetic nervous system to the ductless glands and the body as a whole must be given

more consideration As pointed out by Dr Cannon, the clinical experiments on vagotomy have been of value in excluding the positive basis on which this complex was introduced I regret that Dr Aub did not say more about those peculiar adiposities related to pituitary disease with a low basal metabolic rate The most recent literature credits the pituitary gland with diminishing metabolism As that metabolic rate is taken today, based on the oxygen exchange in the lungs, comparatively all these patients having pituitary adiposity experience no change in their basal metabolic rate, yet they gain weight rapidly It will be necessary to have other tests—fat metabolism must be investigated, with other estimations of metabolism before this is explained The cooperation of the best men in their various experimental departments will promote a better understanding of this complex subject Dr Hoskins' paper is timely in that it draws attention to the varied terminology and nomenclature prevalent at this time Terms such as dystrophy and dyspituitarism, used as a cloak for ignorance should be abandoned The physiologists have not proved that we have a specific substance from some of these glands There is no question that there is overenthusiasm in the treatment of ductless gland disorders Undoubtedly, we can accomplish more by uniglandular treatment, even if we have a pluriglandular disorder Make the test with one gland substance for a long time to determine whether you get a therapeutic reaction, and then, if you think there is another gland involved, give the other substance singly, noting results Stock prescriptions of pluriglandular substances are difficult to control or estimate For instance, a preparation containing one-half grain of thyroid, combined with epinephrin and spermin given to a person who needs 5 grains of thyroid substance would be insufficient to meet indications We have to know how to give each glandular substance up to the physiologic effect and this varies in each individual patient

DR LEONARD G ROWNTREE, Rochester Minn Endocrinology is still young It is far from a science Facts are being pried from nature, and these facts are being scrutinized, systematized and correlated Science will eventually evolve The need in endocrinology today is, as it always has been, well planned and carefully executed clinical and experimental investigations, accompanied by analytic and critical judgment Dr Cannon has dealt largely with matters pertaining to the control of the activity of the endocrine glands, considerations which led Bayliss and Starling years ago to the discovery of hormones To this field, Dr Cannon himself has contributed much He demands facts and not speculation, and it was extremely interesting to hear him say that he hints at correlation of function, but needs more evidence before accepting these correlations Dr Aub reports the results of studies where, happily, objective control is possible He has furnished a model in the differentiation of facts from hypotheses and theories and he has made contributions to our knowledge of the factors involved in the control of metabolism and the mechanism involved in this control Dr Carlson has directed a searching inquiry into many of our physiologic and clinical beliefs, and has emphasized particularly the shortcomings of clinicians and also of physiologists As a physiologist, he has subjected to critical judgment our claims concerning the qualitative and quantitative changes resulting from manipulative procedures or from processes of disease He has attempted correlations of clinical, physiologic and pathologic data which, in part, have puzzled and baffled clinicians and which apparently are also somewhat puzzling and baffling to him Dr Hoskins has emphasized the magnitude of the therapeutic problem and has called on the leaders of the profession to exercise leadership in therapy as well as in diagnosis There are certain needs in endocrinology (1) postulates in endocrinology analogous to Koch's postulates in bacteriology, (2) a common basis among workers in the same field, and between workers in the various fields concerned in endocrinology from the standpoint first, of a common point of view, and, second, of nomenclature (Does hyperplasia for instance, mean the same thing to all workers in all fields? Does it mean the same to all pathologists?), (3) clinical classifications and (4) objective control of therapy, such as we have in basal metabolism, urine output under the action of posterior lobe of the pituitary and blood pressure in Addison's disease Progress in endocrinology will come slowly through thoroughly correlated, adequately controlled investigations, in which the findings are subjected to interpretation based on analytic and critical judgment

DR WALTER M BOOTHBY, Rochester, Minn In a myxedematous patient, 10 mg of thyroxin, injected intravenously, elevates the basal metabolic rate on the average 28 points The height of the curve comes from the fifth to the tenth day after injection, it remains at this level for several days, and then gradually declines, reaching the original level from fifty to sixty days later In the clinical administration of thyroxin or thyroid extract this delayed and long continued action of thyroxin must be taken into account in the determination of the size of the dose also the fact that any change in the dose will not produce its main effect for five or ten days Failure to appreciate this delayed effect has made it difficult to regulate properly the amount of thyroid extract required, and has led to the custom of intermittent administration It is better however to establish a correct dose that can be given indefinitely, and it has been found that 1 6 mg of thyroxin is usually the correct daily dose The curve of the calorigenic effect of epinephrin is similar in form to that of thyroxin, provided that the time element is changed to minutes in the former case from that of days for thyroxin In confirmation of Dr Aub's work, we have been able to show in dogs that it is possible to obtain a calorigenic effect from such doses of epinephrin as Cannon and Stewart and Rogoff have shown to be within the powers of the suprarenal glands to secrete

DR H T HYMAN, New York I was glad that Dr Cannon called attention to the work that renders untenable the tonicity theory of the regulation of the involuntary nervous system Dr Cannon presented again his emergency theory and the evidence favoring it, but did not refer to the work at Western Reserve University which refutes many of the experiments on which the theory rests With reference to the nervous influences on the thyroid, two facts are contrary to the evidence on which the supposition rests 1 Thyroxin effects do not occur for hours, even days, after injection, while the supposed increased output of thyroxin following nerve stimulation is manifested in a few moments in the experiments quoted 2 The supposed effect of the increased thyroxin output in the experiments of Levy we have produced weeks after thyroidectomy and have shown to be due to changes in the involuntary nervous system We are indebted to Drs Carlson and Hoskins for their interpretation of clinical results We know that it is necessary to ablate about 90 per cent of a gland in order to produce evidences of insufficiency in the laboratory, that even with a fragment of active glandular tissue remaining, normal function is maintained Under these circumstances, where is the evidence for the much discussed formes frustes? So far as we know, no gland can function for another Where, then, are the evidences for vicarious functioning? How can endocrinologists refer to results following endocrine therapy as "specific results when we have no means of assaying glandular preparations and when we know nothing of the absorption? We speak of hyperfunction When we are unaware of the output into the veins of the glands under normal conditions, how can we postulate a hyperfunction? Most of the symptoms attributed to disturbance of the ductless glands can be produced only through the involuntary nervous system Consequently no more important step in our knowledge must be sought than the mechanism by which the ductless glands affect the involuntary nervous system

DR WALTER TIMME, New York Dr Hoskins' mathematics are very simple algebra—on the basis of permutations and computations As a matter of fact that principle of mathematics depends on constant quantities The endocrine system has no constant quantities, only variables, and that needs a higher type of mathematics—a calculus which furnishes information about differentials—but the end-result has to be integrated by integral calculus So we are still further along than we were before and at the same time more deeply involved The answer to any integral calculus problem dealing with variables is never one term or absolute quantity It is always represented in a series of terms combined in a formula of functions of the factors involved To illustrate A middle aged woman gives the clinical aspects of myxedema

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more consideration As pointed out by Dr Cannon, the clinical experiments on vagotomy have been of value in excluding the positive basis on which this complex was introduced I regret that Dr Aub did not say more about those peculiar adiposities related to pituitary disease with a low basal metabolic rate The most recent literature credits the pituitary gland with diminishing metabolism As that metabolic rate is taken today, based on the oxygen exchange in the lungs, comparatively all these patients having pituitary adiposity experience no change in their basal metabolic rate yet they gain weight rapidly It will be necessary to have other tests—fat metabolism must be investigated with other estimations of metabolism before this is explained The cooperation of the best men in their various experimental departments will promote a better understanding of this complex subject Dr Hoskins' paper is timely in that it draws attention to the varied terminology and nomenclature prevalent at this time Terms such as dystrophy and dyspituitarism, used as a cloak for ignorance should be abandoned The physiologists have not proved that we have a specific substance from some of these glands There is no question that there is overenthusiasm in the treatment of ductless gland disorders Undoubtedly, we can accomplish more by uniglandular treatment, even if we have a pluriglandular disorder Make the test with one gland substance for a long time to determine whether you get a therapeutic reaction, and then, if you think there is another gland involved, give the other substance singly, noting results Stock prescriptions of pluriglandular substances are difficult to control or estimate For instance, a preparation containing one-half grain of thyroid, combined with epinephrin and spermin, given to a person who needs 5 grains of thyroid substance would be insufficient to meet indications We have to know how to give each glandular substance up to the physiologic effect, and this varies in each individual patient

DR LEONARD G ROWNTREE Rochester, Minn Endocrinology is still young It is far from a science Facts are being pried from nature, and these facts are being scrutinized, systematized and correlated Science will eventually evolve The need in endocrinology today is as it always has been, well planned and carefully executed clinical and experimental investigations, accompanied by analytic and critical judgment Dr Cannon has dealt largely with matters pertaining to the control of the activity of the endocrine glands, considerations which led Bayliss and Starling years ago to the discovery of hormones To this field, Dr Cannon himself has contributed much He demands facts and not speculation, and it was extremely interesting to hear him say that he hints at correlation of function, but needs more evidence before accepting these correlations Dr Aub reports the results of studies where, happily, objective control is possible He has furnished a model in the differentiation of facts from hypotheses and theories and he has made contributions to our knowledge of the factors involved in the control of metabolism and the mechanism involved in this control Dr Carlson has directed a searching inquiry into many of our physiologic and clinical beliefs, and has emphasized particularly the shortcomings of clinicians and also of physiologists As a physiologist, he has subjected to critical judgment our claims concerning the qualitative and quantitative changes resulting from manipulative procedures or from processes of disease He has attempted correlations of clinical, physiologic and pathologic data which, in part, have puzzled and baffled clinicians and which apparently are also somewhat puzzling and baffling to him Dr Hoskins has emphasized the magnitude of the therapeutic problem and has called on the leaders of the profession to exercise leadership in therapy as well as in diagnosis There are certain needs in endocrinology (1) postulates in endocrinology analogous to Koch's postulates in bacteriology, (2) a common basis among workers in the same field, and between workers in the various fields concerned in endocrinology from the standpoint first of a common point of view and, second, of nomenclature (Does hyperplasia for instance, mean the same thing to all workers in all fields? Does it mean the same to all pathologists?) (3) clinical classifications and (4) objective control of therapy, such as we have in basal metabolism, urine output under the action of posterior lobe of the pituitary and blood pressure in Addison's disease Progress in endocrinology will come slowly through thoroughly correlated, adequately controlled investigations, in which the findings are subjected to interpretation based on analytic and critical judgment

DR WALTER M BOOTHBY, Rochester Minn In a myxedematous patient, 10 mg of thyroxin, injected intravenously, elevates the basal metabolic rate on the average 28 points The height of the curve comes from the fifth to the tenth day after injection, it remains at this level for several days, and then gradually declines reaching the original level from fifty to sixty days later In the clinical administration of thyroxin or thyroid extract this delayed and long continued action of thyroxin must be taken into account in the determination of the size of the dose also the fact that any change in the dose will not produce its main effect for five or ten days Failure to appreciate this delayed effect has made it difficult to regulate properly the amount of thyroid extract required, and has led to the custom of intermittent administration It is better however to establish a correct dose that can be given indefinitely and it has been found that 1 6 mg of thyroxin is usually the correct daily dose The curve of the calorigenic effect of epinephrin is similar in form to that of thyroxin, provided that the time element is changed to minutes in the former case from that of days for thyroxin In confirmation of Dr Aub's work, we have been able to show in dogs that it is possible to obtain a calorigenic effect from such doses of epinephrin as Cannon and Stewart and Rogoff have shown to be within the powers of the suprarenal glands to secrete

DR H T HYMAN, New York I was glad that Dr Cannon called attention to the work that renders untenable the tonicity theory of the regulation of the involuntary nervous system Dr Cannon presented again his emergency theory and the evidence favoring it, but did not refer to the work at Western Reserve University which refutes many of the experiments on which the theory rests With reference to the nervous influences on the thyroid, two facts are contrary to the evidence on which the supposition rests 1 Thyroxin effects do not occur for hours, even days, after injection, while the supposed increased output of thyroxin following nerve stimulation is manifested in a few moments in the experiments quoted 2 The supposed effect of the increased thyroxin output in the experiments of Levy we have produced weeks after thyroidectomy and have shown to be due to changes in the involuntary nervous system We are indebted to Drs Carlson and Hoskins for their interpretation of clinical results We know that it is necessary to ablate about 90 per cent of a gland in order to produce evidences of insufficiency in the laboratory, that even with a fragment of active glandular tissue remaining normal function is maintained Under these circumstances, where is the evidence for the much discussed formes frustes? So far as we know, no gland can function for another Where, then, are the evidences for vicarious functioning? How can endocrinologists refer to results following endocrine therapy as "specific results" when we have no means of assaying glandular preparations and when we know nothing of the absorption? We speak of hyperfunction When we are unaware of the output into the veins of the glands under normal conditions, how can we postulate a hyperfunction? Most of the symptoms attributed to disturbance of the ductless glands can be produced only through the involuntary nervous system Consequently no more important step in our knowledge must be sought than the mechanism by which the ductless glands affect the involuntary nervous system

DR WALTER TIMME, New York Dr Hoskins' mathematics are very simple algebra—on the basis of permutations and computations As a matter of fact, that principle of mathematics depends on constant quantities The endocrine system has no constant quantities, only variables and that needs a higher type of mathematics—a calculus which furnishes information about differentials—but the end-result has to be integrated by integral calculus So we are still further along than we were before and at the same time more deeply involved The answer to any integral calculus problem dealing with variables is never one term or absolute quantity It is always represented in a series of terms combined in a formula of functions of the factors involved To illustrate A middle aged woman gives the clinical aspects of myxedema

her basal metabolic rate was determined by three investigations made by two investigators, and varied from plus 80 per per cent to plus 100 per cent Hence, the men who saw her refused to believe it was myxedema and refused to give her thyroid Examining the case further, we found that she had intense headache, and roentgenographic examination showed she had an enlarged sella turcica and a bitemporal hemianopsia with a diminution of vision Therefore, it was a case of hypophysial mass, plus myxedema She was given small doses of thyroid Within two or three days she began to improve, her headaches began to diminish in severity, and the basal metabolic rate became lower, on no other treatment than the administration of thyroid! It does not mean that the deficiency of the thyroid produced a high metabolic rate, that the hypophysial mass produced the high metabolic rate, the high rate may be due to pressure of the hypophysial mass on parts of the brain In any event, it means that the integration of the syndrome is a formula, and that is what we have to consider in all the innumerable problems which confront us and the formula is one which involves all the varying activities of the glandular elements

DR A S BLUMGARTEN, New York I can discuss the subject only from its clinical aspect and there are two phases to that one is the importance of endocrine study in clinical medicine, and the other is the question of therapy The study of the patient from an endocrine point of view is a valuable adjunct to the ordinary routine physical examination, especially when it is impossible to recognize a pathologic change by present methods of examination Clinically, endocrine disturbances that are presented for treatment are usually disturbances in growth and development and in physiology In the majority of instances the disturbances in development are not amenable to treatment by organotherapy, although the endocrine basis for the condition is apparent The dried extracts of various ductless glands have a limited value, but it is hoped that we shall be able to get better results when we can better recognize the conditions amenable to treatment and have products which can give definite reliable effects The basis of organotherapy is substitution therapy One must be guarded, however, in drawing conclusions, as frequently spontaneous cures and improvements take place For example In the Froelich syndrome of pituitary disturbance, the improvement in genital development following pituitary therapy is often not the result of therapy at all Many of the genital symptoms are merely a retarded puberty, which gets well spontaneously, even without therapy The dosage is another important point in organotherapy Since we are supplying a deficient substance and we have no way of determining the quantitative deficiency, we have no way of determining the dosage I think we can summarize the present status of organotherapy in reference to dried extracts by stating that thyroid extract is curative in cases of thyroid deficiency, such as myxedema and cretinism Pituitary extracts are valuable in relieving many of the symptoms of pituitary deficiency, largely of a subjective nature, and more valuable in females than in males Objective results with pituitary extracts are rather rare The other dried extracts are still in the experimental stage Epinephrin and pituitary extract are useful for the production of their specific pharmacologic effects The problem of the future consists in recognizing specific states of glandular deficiency and obtaining preparations that will produce definite results

DR. HARRY A BAKER, Minneapolis There is a gland of which no mention has ever been made, important in the arrangement and, etiologically, a factor in the derangement of this system, i e, the brain Indeed, the brain ought to be included among the endocrines for though, perhaps, through its subsidiary glands it is occupied in other activities, its chief function is the assimilation of matters sensate into sense and understanding By regarding the brain as the head and front, and the sympathetic nervous system as the equilibrator, it then becomes easy to comprehend how disturbances primarily of the head result in functional derangements, faulty equilibration in metabolic disorders, and the reverse, faulty equilibration continued over a long period of time, resulting in minor or even grave functional disturbances, the relationship being almost as close as the cardiorenal to the organic system

DR LOUIS B WILSON, Rochester, Minn In this congeries of clinicians, physiologists, biochemists and mathematicians I, an old time pathologist and morphologist, feel like one of the slow going high wheeled ox carts of my adopted state in a flock of aeroplanes But I wish to say one word of suggestion to the aeronauts Keep close to the ground when you start, remembering that almost all that we know of the actual facts of disease has been learned at the necropsy table Let us not forget that there is, after all, something in morphology which we cannot ignore in our experimental or physiologic or biochemical work on disease One of the essayists doubted somewhat the correlation of the morphologic evidence of increased activity in the thyroid in relation to hyperthyroidism, because there is an occasional instance in which hypertrophy and hyperplasia of the cells of the thyroid are not coincident with what the clinician says as they appear in the patient Clinical evidence you know, is not always absolutely true Neither is experimental evidence always true I do not find absolute agreement in the pathology and in the diagnoses that have been made There is just a suspicion that the patient did not have what the eminent clinician thought she had When one essayist says he doubts the relationship between parenchymal overgrowth and overfunction in the gland, I think back over the seventeen years that I have spent in examining more than 16 000 thyroids—minutely, not in a single section, but going over them piecemeal by the hundreds of sections—and when I look at my photographs, I ask myself, "Have I been mistaken? Is it after all true that there is not any difference between the histologic evidence, and the facts as shown by the clinician or as thought to be present by the clinician?" We must keep our feet on the ground

DR W B CANNON, Boston I understood Dr Carlson to express himself as not being committed to morphologic change as indicative of disturbed physiologic function And yet when he came to consider the relation of nerves and nerve supply to the glands of internal secretion he used, as part of his evidence regarding these nerves of minor importance the fact that after severance of the nerve little morphologic change in the gland is demonstrable It seems to me that we should not expect more morphologic changes under these circumstances If the glands of internal secretion to which the nerves go are also subject to humoral control, I would agree with him that so far as morphologic evidence is concerned it is of minor importance as bearing on the question of nervous control of the endocrine glands Both he and Dr Hyman were inclined to throw doubt on the evidence we had obtained that the thyroid is subject to nervous control, when we used the denervated heart as an evidence of activity And the reason we threw doubt on that is that following the administration of thyroxin, no effect is noted for from twelve to sixteen hours whereas in the stimulation of the nerve in the heart, it was determined that the effect began in fifteen minutes and reached its acme in about three quarters of an hour or an hour Why that discrepancy should throw doubt on the experiments I have called attention to is difficult for me to see There is a discrepancy there we see that, but why is the doubt thrown altogether in one direction? Here is a substance which has been removed from the thyroid, which has been put through complicated chemical processes processes which we suppose have not left the substance in the original state We are dealing with what is quite possibly a drug, a substance which, to be sure, is capable of affecting metabolism, but to assume that it is the physiologic substance in thyroid activity goes beyond any reason we are justified in taking It is quite possible that thyroxin has to undergo a chemical change before it is capable of acting at all *In the experiments I described in* which the animal was anesthetized and asphyxia was produced, the effects observed could properly be determined as physiologic in character The discrepancy exists, but the doubt is not to be thrown wholly in one direction Dr Hyman asked why I had not called attention to observations made at the Western Reserve University which are contradictory to observations reported today I hope Dr Hyman did not intend to imply that I was suppressing the truth I have so recently called attention to the defects in the evidence

mouth The interesting question here is whether the chronic inflammatory area of leukoplakia is more likely to become the site of cancer than is any other chronic sore of the mouth, for example, the granuloma at the tooth root, or the ulceration from pressure and irritation of a tobacco quid or a jagged tooth crown This question is especially important in view of accumulating evidence that cancer bears a rather constant relation to inflammation

That cancer is contagious in the ordinary meaning of this word is, I think considered quite doubtful However, of the fact of its inoculability there is no doubt, as is proved by animal experiments, and yet practicing surgeons will be disposed to wonder whether cancer is very readily inoculable in the human, for every one of us must have pricked a finger many times without local inoculation in the course of cancer operations, particularly before the day of rubber gloves, which seems strange in view of the high rate of incidence of cancer at the site of inoculation in animals, for example, by Fichera, Nuzum Slye and others Certainly, in view of the results of animal inoculation, one would not care to consult a dentist who does not sterilize his instruments and hands, if there be such a dentist

The occurrence of cancer in plural instances in the same family, "cancer a deux" of married couples, cancer villages, cancer streets, etc have long been looked on as strongly indicating heredity as a factor in cancer etiology These observations, of course, do not establish the truth of heredity Since the same village, street, or home often means the same habits, environment, occupation, etc, it is just as fair to seek the reason for cancer dissemination in the latter group of factors as in the former ones implying familial or other intimate connections Mice experiments (for example, those of Slye) have given much stronger support to the hypothesis of heredity

The question as to whether cancer is primarily of a local or constitutional nature is interesting to any one considering the matter of cancer prevention L Duncan Bulkley[1] has pointed out that, during the last 100 years, many famous surgeons, among them Abernethy, Sir Astley Cooper and Sir James Paget, have expressed the belief that cancer is a constitutional disease Bulkley presents a chart setting forth laboratory findings and statistical, biochemical and clinical evidence in support of his contention He stresses the importance of blood changes in early and late cancer, and of metabolic changes in the system before and after the development of the local cancerous lesion, and states that dozens of hundreds of patients with cancer have been benefited and cured by other than local measures

Moreover, a recent writer[2] declares that cancer has never been proved to be a local disease at any stage and that it has never been proved not to be a constitutional disease at every stage Now, if it were true that cancer is from the beginning a constitutional disease, then, of course, all of our efforts to lower the incidence of cancer of the mouth, jaws and face by the removal of jagged teeth, the cure of leukoplakia, or the interdiction of the pipe when, for example, the area of irritation appears on the lip, would be to little purpose, but every surgeon, out of his own experience, can recall at least several instances in which cancer has been ablated completely and permanently, for example, by the amputation of a hand or foot or removal of a lip, and such men will look with little favor on this view, even though it is held by so earnest and distinguished a man as Bulkley Even those who refuse to admit that "if a man past middle life does not smoke heavily, nor chew tobacco, cares for his teeth and keeps his mouth clean, he is very much less likely to have cancer than one who does not follow the simple laws of mouth hygiene," will admit, at least, that such a man is less likely to have cancer of the mouth, and this is a matter of the greatest importance Even admitting what is probably not true, that is, that cancer is primarily constitutional, it is, nevertheless, of tremendous importance to prevent its appearance in the mouth, since the history of the results of all forms of treatment of cancer of the buccal cavity constitutes a very dark chapter This pitiable record shows its extreme malignancy, principally, of course, because of the richness of this zone in blood and lymph vessels and glands, and the intimate relation to vital structures

That a lesion which is benign in its histologic nature may develop malignant character is no longer open to serious doubt Paine believes that he has observed all stages and sequences of degeneration, from chronic inflammation of the breast to cancer McCarthy's classification of chronic mastitis into primary, secondary and tertiary stages sets forth such sequence

Clarke[3] believes that cancer results from inflammation when the process is prolonged beyond the regenerative power of the tissues, and Dr C H Mayo has expressed the view that cancerous degeneration at the margin of the gastric ulcer may be due to exhaustion of the marginal cells, as a result of a long ineffectual attempt to cover the denuded area Whatever the explanation, empiric proof is abundant to justify the long recognized principle of cancerous degeneration of benign lesions

Naturally, in the region of the mouth, the dentist is the "master man in the struggle to combat malignancy" It is to him that we must look to give out the warning against danger of the early lesions of tobacco, alcohol, hot drinks, pyorrhea, syphilis, etc

It is well established that cancer of the lip, mouth and tongue practically always attacks men who abuse tobacco, have jagged teeth, and ignore the dentist As to lip cancer, the mere fact that 3,500 in round numbers die annually in this country from carcinoma of the lip, demands that interested attention be given to the matter of smoking This, at the present time, concerns men as a rule, since lip cancer is six times more common in men than in women, lip cancer in women nearly always developing among pipe smokers However, if the emancipation of American women in this respect becomes as complete as it is in Scandinavia, where ladies of perfectly apparent refinement smoke black cigars quite publicly, we may expect a higher rate of incidence of lip carcinoma among women

Bloodgood,[4] speaking of tongue cancer says that there is always a warning sore spot, a white patch, or an area of irritation, and that examination and treatment at once protects from cancer He further declares that the warnings of cancer of the tongue are definite and that in the beginning the lesions are not cancer These warnings are white patches, bad teeth,

1 Bulkley L D Med Rec. **114** 85 (July 20) 1921
2 Little S W Med Rec **100** 407 (Sept 3) 1921
3 Clarke T C Lancet 2 1298 (Dec 25) 1920
4 Bloodgood J C Cancer of the Tongue A Preventable Disease J A M A **77** 1381 (Oct 29) 1921

areas of irritation and ulcers The same is, of course, true of cancer of the lip, gums and mouth generally

As an indication of the excellent results accomplished by the educational campaign of the American Society for the Control of Cancer, it is noted by Bloodgood that one of the large surgical clinics of this country has just completed a study of about 265 cases of areas of the tongue that were cancerous and of areas that were not cancerous In the first decade, up to 1900, but one person (3 per cent of the total number) consulted this clinic for a sore on the tongue which was not cancerous In the third decade, from 1910 to 1920, seventy-one persons, or 48 per cent, came for advice before cancer had started Since the beginning of the fourth decade, nineteen men, or 55 per cent, have, because of the educational movement, come under observation before cancer had started

Therefore, of 265 men who thought they had cancer of the tongue, in 105, or 40 per cent, protection from cancer has been accomplished by the dissemination of information only

Little [4] assumes that cancer is a constitutional disease in the same sense that premature old age is a constitutional disease, and suspects that it may be controlled by the same means, but he does not deny that chronic irritations are the usual sites for the appearance of cancer and concedes, after an interesting review of statistics, that smoking is almost a prerequisite for the appearance of cancer of the lip

It is, of course, our plain duty to encourage every effort to discover the nature and ultimate cause of cancer, but, in the meantime, no dentist or physician can justify himself in ignoring such an abundantly proven clinical or empiric fact that a man of middle age in whose mouth a quid of scrap tobacco rides habitually on a row of jagged molars, is courting disaster, regardless of theories as to whether cancer is primarily constitutional

It is the work of such organizations as the Society for the Control of Cancer which is most productive of good results in the battle against this scourge I believe that if almost any one of the men so actively and earnestly engaged in this field were asked to sum up in a single word everything that relates to our present day knowledge of cancer prevention, the one word would be "education," and although my views may be to some extent influenced by personal bias, I believe that this education should consist largely in teaching all those in middle life to exercise abundantly in the fresh air, to live in the sunshine and to subsist on a diet of fruits and vegetables as nearly as a sensible person can, and, moreover, to be sure that the foods are cooked and not eaten too hot

That overeating is not only disgusting but dangerous should be taught, and that overwork and worry lower the index of vital resistance against cancer as well as arteriosclerosis We should keep happy, employing the carefree philosophy of the negro, whose cancer incidence is low We should not smoke much, or ever use a pipe, or chew tobacco

Further education is necessary to impress physicians and the laity with the importance of recognizing precancer lesions of the skin and mucous membranes, especially when there is transition of epithelium, and dealing with them promptly Finally, all must be taught that there is no health measure more important than rigid mouth hygiene, which, after all, means to employ a good dentist and to obey him to the letter

331 North Delaware Street

TEACHING THE FUNDAMENTALS OF SURGERY

FROM THE POINT OF VIEW OF THE GRADUATE SCHOOL *

LOUIS B WILSON, M D
ROCHESTER, MINN

The Committee on Graduate Instruction in Orthopedic Surgery appointed by the Council on Education of the American Medical Association last year made certain fundamental suggestions concerning the training of orthopedic surgeons The first paragraph of that report [1] is as follows "This committee takes the position at the outset that orthopedic surgery is a branch of general surgery and that no preparation for the practice of orthopedic surgery can be considered satisfactory which does not comprise adequate practical training in the principles and technic of general surgery" This wise resolution no doubt explains why the chairman has asked me to talk on "the teaching of surgery" rather than on "the teaching of orthopedic surgery" What I have to say will relate to unorganized graduate medical training, to our experience in organized graduate work in the University of Minnesota, and to the lessons which may be drawn from that experience

UNORGANIZED TRAINING

Unorganized graduate training in surgery and other special fields of medicine is, of course, no new thing In this country, until recent years, most of it has been accomplished in internships, residencies, assistantships and apprenticeships, supplemented in some instances by short courses in so-called postgraduate schools either here or abroad, by visits to other clinics, and so forth We must not forget that this unorganized, somewhat hit-or-miss system has been the chief factor in the development of the present-day leaders in all the special fields of medicine It has many advantages, especially in that it permits the greatest freedom of choice on the part of the graduate student who desires to fit himself for practice in a special branch Some of its disadvantages are

1 The system is liable to waste the time of the graduate student This ill-spent time apparently averaged more than a year for each of 217 leaders in special clinical fields who responded to questionnaires of the Committee on Graduate Medical Education of the American Medical Association two years ago [2]

2 Students in surgery, when left to their own devices, are liable to strive for technical training before they have grasped the essential relationships of pathology, or have attained sufficient skill in surgical diagnosis Even their technical training may be too narrow to produce broad-gage surgeons or orthopedists

3 Interns, residents and assistants are too often selected from among the graduates of the school with which the hospital is connected These young men, without experience elsewhere, may acquire only very provincial points of view and are liable, in turn, to become members of their medical school faculty The result of this inbreeding has already shown itself, in some medical faculties, in early professional paresis

* Read before the Session on Orthopedic Surgery at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 A M A Bull 15 49 50 (January) 1921
2 A M A Bull 14 45 49 (July) 1920

4 The failure of universities in the past to recognize by higher degrees standard attainments in special medical fields has resulted in the attempt to remedy this by such organizations as the American College of Surgeons and the American College of Physicians, which, though actuated by the best of intentions, must labor under great difficulties in any attempt to standardize large numbers of widely scattered applicants, of whose actual attainments they can have only the most superficial knowledge

MINNESOTA'S EXPERIENCE

With some realization of the above-mentioned difficulties in unorganized graduate medical training, the University of Minnesota, seven years ago, undertook to reorganize the opportunities in its laboratories and university-controlled hospitals in Minneapolis and St Paul, and in the laboratories and hospitals of the Mayo Clinic in Rochester, Minn., into a system which would provide means for selected graduate students, under advice of a competent faculty, to round out any existing weak points in their previous medical training and vacancies in fellowships available, by the long period of work required, or by the stringent educational requirements for entrance and graduation However, about 200 a year do complete their formal applications for a three to five year service, including submission of their credentials, references and so forth In all, 1,005 such complete formal applications have been filed in the Mayo Foundation A careful analysis of these applications shows that 778 candidates were eligible and 227 ineligible for admission under the rules of the university Four hundred and eighteen students have been accepted, of whom 184 have selected surgery and eight orthopedic surgery as their major field All students in orthopedic surgery have, of course, taken work in general surgery, and many students in general surgery have had special work in orthopedic surgery Hence it is proper to consider these two groups together Of these 192 students in surgery, seventy-two are either now on duty in the Mayo Foundation or have been appointed for service during 1922 Twenty-four students in surgery were permitted to resign during the first year of their fellowship, seventeen during the second year and forty-two during the third year or later, without having attempted to meet the final requirements for advanced degrees Five more are now on leave of absence Up to the present time, including the graduating class for June, 1922, thirty-seven candidates have attempted to meet the final requirements for advanced degrees in surgery Of these, thirty-one have been granted the degree of master of science in surgery, two the degree of doctor of philosophy in surgery, and four applicants have failed to meet the requirements for any advanced degree in surgery

GRADUATE STUDENTS IN THE MAYO FOUNDATION FROM JAN 1 1915 TO MAY 16 1922

Major Field	Graduate Students Now on Duty or Appointed July 1 1922	Left During First Year of Fellowship	Left During Second Year of Fellowship	Left During Third Year or Later Not Candidate for Degrees	On Leave of Absence	Applied for Degrees	Received M S Degree	Received Ph D Degree	Failed	Total Number Graduate Students (Duplicates Omitted)	Additional Eligible Applicants Not Accepted	Total Eligible Applicants	Ineligible Applicants	Total Completed Applications
General surgery	65	24	17	41	5	36	30	2	4	184	246	430	148	578
Orthopedic surgery	6			1		1	1			8	5	13	3	16
Urology	6	3	4	2	1	5	5			20	8	28	7	35
Ophthalmology	4	6	1	1						12	2	14	5	19
E E N & T											6	6	15	21
Otolaryngology	10	2	2	1	1	2	2			20	6	26	5	31
Medicine	4	9	3	2	2	7	2	1	1	72	42	114	30	144
Dermatology	6	2			1	1	1			9	4	13		13
Pediatrics		2								5	3	8	2	10
Neurology	1									4	3	7		7
Roentgenology										7	4	11	4	15
Pathology	9	4	2			2	4			18	7	25	5	30
Bacteriology	1	1	1	2		2	1	1		7	10	17		17
Chemistry	3	2	1			1	1			6	4	10		10
Physiology											2	2		2
Dental surgery	2	2	1							12	8	20	3	23
Total	118	71	36	53	10	60	50	4	5	384	360	744	227	971
Short term†	1	21								34		34		34
Total	179	92	36	53	10	60	50	4	5	418	360	778	227	1 005

Died

† Medical officers from the United States services fellows from other universities appointee of foreign governments et al Doe not include undergraduate volunteer summer students

Our experience during the last seven years, in interviewing and corresponding with several thousand prospective graduate medical students and in working daily with the four hundred who have been with us, has led us to make certain observations concerning the previous training of the applicants, the various means of giving those who are accepted opportunities of becoming competent in their chosen fields, and the means of testing their attainments

to fit themselves, on a broad educational basis, for practice in special clinical fields, including surgery and orthopedic surgery Accordingly, a plan for graduate medical education, which in general, follows that in operation in many universities for graduate work in the liberal arts and the other sciences, was formulated and has been in operation since Jan 1, 1915 Selected graduates of Class A medical schools who have had at least one year of graduate internship or laboratory work are accepted for periods of from three to five years of graduate work in a specific field Our seven years' experience, so far as statistics go, may be summarized thus

At present, more than 1,000 prospective candidates a year are seeking opportunities for graduate medical training in the Mayo Foundation, which is one division of the medical graduate department of the graduate school of the University of Minnesota Of these, about 60 per cent are inquiring for work in general surgery Almost all of the remainder are seeking opportunities in other clinical fields An exceedingly small number are seeking opportunities in the preclinical branches

Of the 1,000 prospective students a year, many are discouraged at the outset by the small number of

DEFECTS IN PREVIOUS TRAINING

1 Applicants for fellowships average about 27 years of age at the completion of their internship, which averages about one and one-fourth years This is obviously too old Allowing eight years for college, medical school and internship, their average age at leaving high school was about 19 years From personal interviews with hundreds of applicants, I am convinced that their retardation usually has been in the high school, and there almost always through difficulty with algebra, geometry and foreign languages All of these studies, I believe, are customarily begun after the passing of the optimum psychologic period for their acquisition I doubt very much whether 8 years of age is too early to begin the study of modern foreign languages, and I believe that every day after 12 years of age that such study is postponed adds an unnecessary burden to the student There is no question that a child of 12 can readily grasp the fundamental principles of geometry and algebra The postponement of the teaching of the principles of these until arithmetic is nominally mastered is an error which results in unnecessary hardship for the student in later years

2 Very few applicants have a real reading knowledge of French or German despite the fact that they have nominally met the Class A medical school requirements in this respect This is the result of bad teaching of the languages and the failure of medical school faculties to see that the medical student is required to persist in his reading of foreign medical literature

3 Many applicants use incorrect spoken and written English Many of them apparently have little knowledge of those subjects which contribute to good citizenship and personal culture, such as history, economics, literature, art and music Defects in these probably may be charged to their homes as much as to their schools

One cannot help believing that all such defects might be readily remedied Attention in the home to the use of correct English, to the reading of good books rather than sloppy juveniles, to training in habits of industry, persistence, promptness, honesty and courtesy should lay the foundation If, then, the grade and high schools would provide, for those whose parents desired it, instruction in algebra, geometry and foreign languages, at the period when these can best be learned, it should be possible for most boys and girls to enter college at 16 years of age Added to this, a four-year college course which includes at least as much study of the humanities as of physics, chemistry and biology, should bring the 20-year-old college graduate to the portal of the medical course, not only with more culture than he has at present, but also with much more ability to evaluate and assimilate the important portions of the several preclinical medical sciences with which he is deluged during his first two years in medical school

The attempt to teach, in the first two years of medical school, six complete medical sciences, any one of which would require the full attention of the medical student for at least two years were he fully to grasp the subject, is probably responsible for the next defect to be mentioned

4 Many applicants have but a very superficial knowledge of anatomy, biochemistry, physiology, pathology, bacteriology and pharmacy Their knowledge of essentials is as superficial as their knowledge of unessentials in these subjects

We must either double the time now allotted to the teaching of the preclinical medical sciences or halve the amount of subject matter in each which we attempt to teach if we are to approach necessary thoroughness in the essentials of each

5 Many present day graduates are at a loss to apply what they do know of the essential principles of the preclinical branches in the diagnosis and treatment of disease Unfortunately, the attitude seems to exist to some extent that, at the end of the first two years in the medical school, when the examinations in anatomy, pathology chemistry, physiology, bacteriology and pharmacology have been taken and passed, the student is through with these subjects for the rest of his life, and, now that he is no longer to be bothered with them he may give his attention to the really interesting fields of clinical medicine This attitude is so pronounced that there is a strong tendency in the last two years of medical school and during internship to permit the student to fail to apply his knowledge of the fundamental facts of the preclinical branches in his study of the diagnosis and treatment of disease

The physician who has a sufficiently thorough knowledge of the essentials of the fundamental medical sciences to use them as familiar tools in the every-day study of complicated individual cases and who threads on these lines of knowledge his careful clinical observations, until he can reach a correct diagnosis and formulate a logical plan of treatment, is unfortunately getting rarer, and his production we believe, is not favored by the present cramming system in our medical schools

SELECTION OF FELLOWS

However, with all his defects the present day applicant for graduate medical training is usually a likable and enthusiastic chap On the assumption that the limited opportunities for high grade graduate training should be given only to high grade students most likely to profit by them, how shall we determine whether a certain applicant really has the makings of a real surgeon within him? A large number of young medical students think they have such ability They are attracted toward surgery because it is the spectacular side of medicine They feel that they have a "call" to surgery This insistence of a "call on their part we should not take too seriously Dogs of almost every breed will hesitate or stop at the sight of a wild animal, but if we mistake this common hesitation for pointing, and try to train a bulldog for hunting prairie chickens or quail, we waste our time Similarly, if we try to train every medical student who thinks he is a born surgeon, we will waste our time, his time, the patient's time and, occasionally, the patient's life For this reason I doubt whether courses in the graduate school leading to the study of special fields in medicine should be thrown open unqualifiedly to every student who is able to pay a tuition fee While the judgment of faculties may be poor, they are in the long run probably much better than the ungaged desires of the average medical student who seeks admission to a graduate school for the purpose of becoming a surgeon In making selections, however, we must not be guided entirely by scholarship as recorded in the medical school and college We must look for evidence of broader scholarship than these institutions now furnish True, his scholarship in medical school should have been at least sufficient to place the candidate in the upper third of his class But, most of all, we should try to get some estimate of the appli-

cant's character Unless he shows in his personal appearance, in his manner with his associates, in his manner with patients (especially poor patients), in his general demeanor, in his honesty, his loyalty, and in his manner of receiving criticism that he is at heart a courteous gentleman, he should not be encouraged to enter an already overcrowded field of medicine If, in addition to these qualifications, he has ambition, initiative, industry, persistence and promptness, he is worthy of careful consideration for training

The candidate having been selected and means provided, either from his own funds or from private benefaction, for him to continue his special study for a period of not less than three years and preferably five, how shall his time be spent?

SERVICES IN WHICH THE CANDIDATE SHOULD BE TRAINED

Necropsy Service—At the beginning, something must be done to attempt to patch up the defects in his previous training Not all of this patching can be done at once nor should it be It is better to distribute repairs as required throughout his three to five years of training One important phase of his education has been almost always neglected in American schools He has not had his hands in more than half a dozen necropsies I firmly believe that no man should be permitted to operate on the living until he has operated on at least 100 dead Our first duty, then, if possible, is to place the embryo surgeon where he can make a start in necropsy work, which, if he is to be successful, he will need to follow out for the remainder of his professional life

At the necropsy, the student should actually make the section, beginning first as junior acting as assistant, and later as senior, making the postmortem All of this work should be done under the eye of a competent pathologist, who, as a measure of restraint, may need to tie his own hands behind his back The instructor must remember, however, that the embryo surgeon had better make errors on the dead than on the living How a sufficiently large necropsy service is to be developed even in large hospitals is, I believe, merely a question of going after permissions in a straightforward but persistent manner Time and time again, we have had demonstrations in the United States that, if we want postmortems, we can get them No hospital should be satisfied with performing necropsies on less than 75 per cent of the bodies of all patients that die Friends of the dead have as much right to demand this service as the profession has to request permission to render it

The percentage of postmortems in an institution and the character of and attendance on clinical pathologic conferences are perhaps the surest index of the scientific work of the institution

Diagnostic Service—After the necropsy service, the next in which the graduate student should be placed is the diagnosis of disease Here, under constant competent supervision, the graduate student should have an opportunity to take histories, make the simpler laboratory examinations and designate more complicated ones for all classes of patients The service should not be confined to cases that have already been separated into medical and surgical The entire grist" should be seen In this work, the most important point to be looked out for by the instructor is that the graduate student shall be compelled in his analyses of cases, to give his reasons in terms of anatomy, physiology, pathology, and so forth, that he may have constantly before him the necessity for applying the principles of these subjects in his interpretation of clinical phenomena and in his final summary or diagnosis Throughout this work and all of his subsequent work, the graduate student should be expected to attend necropsies on, at least, those patients with whom he has come in contact, and all clinical-pathologic conferences occurring in the institution

Operative Service—After not less than one year of this service, the embryo surgeon may be placed on duty as second assistant in the operating room, where his duties include the hospital preparation of patients for operation, his ordinary duties as second assistant, and the postoperative care of patients

As soon as his skill has sufficiently developed, which should be in not less than six months, and ordinarily at the end of one year, he should be given a first assistantship In our experience in the Mayo Clinic, these first assistantships are of most value to the student if they extend for a period of not less than one year under the same chief surgeon Fellows may be reappointed for a second year The student's service here may include duties outside the operating room similar to those he had as second assistant, and, in addition, he becomes to some extent responsible for the training of his junior As soon as he gives evidence of sufficient ability, he should be given opportunity to act as chief surgeon at operations, while the surgeon actually in charge stands by and sees that he does his work properly and that no harm comes to the patient

The work as thus outlined represents the principal opportunities for study which should be provided for the graduate student in surgery Nothing has been said about class work, lectures, quizzes, examinations, theses, degrees and so forth However, these all enter in their proper place

OTHER OPPORTUNITIES FOR STUDY

Lectures—I very much doubt the value of the formal routine lecture course for graduate medical students Its purpose may be better served by proper guidance in suggestive reading courses, in clinical conferences or seminars held not less frequently than once a week, and in inspiring lectures from outside men who have done special pieces of work and who may be induced to come and deliver lectures concerning it

Seminars—The seminar or clinical conference provides the best opportunity for teaching graduate medical students This is not so when the professor in charge does all the talking His function should be to answer questions rather than ask them, to stimulate discussion rather than to dominate it In other words, he should encourage his young men to form opinions and to express them, thus giving him an opportunity for kindly criticism The spirit of the seminar should be one of cooperative study rather than of master and pupil The seminar and conference should be held at a definite period of from one to two hours, not less than once a week throughout the entire course

Quizzes—How shall we know whether the graduate is making real progress? Principally, by intimate, daily intercourse with him It is desirable, when men are admitted from many different institutions, in order to test the efficiency of one's standard of admission, and to be sure that the men selected really have some knowledge of those principles of fundamental medical sciences which underlie clinical medicine, to give an examination to each man early in the course This examination, preferably, should be oral and should be

taken part in by from three to five members of the faculty, most of whom should be clinicians, who should quiz the candidate very thoroughly, yet avoid all questions except those designed to determine whether he has knowledge of the absolutely essential principles in the fundamental medical sciences. The candidate who is found not to have such knowledge should not be permitted to continue with his work. It is not the place of the graduate school to teach the elements of preclinical branches, but to give opportunity for the daily use of these elements.

Course Records.—That some record may be kept of the work of the graduate student, it is necessary that the faculty member with whom he is working shall make a report from time to time, preferably at the end of each quarter, of his work in all respects. This report should be confidential to the dean of the school and should cover not only an estimate of the details of his diagnostic and operative skill but also of his general training and his personal characteristics. Such a rating sheet, which has been in use in the Mayo Foundation and previously in the Mayo Clinic for a number of years, is presented herewith:

UNIVERSITY OF MINNESOTA GRADUATE SCHOOL OF MEDICINE

Confidential report on Fellow / Scholar in THE MAYO FOUNDATION

in Course No. with Associate / Assistant Professor

from to Major Minor

NOTE—Students will be graded A B C D or E on each numbered point on which it is possible for the instructor to form an estimate. A represents the highest possible grade and E the lowest short of complete failure. The 'General' grade for work of Course will be marked as are the numbered points or if the student's work has been a failure it will be marked F (failure) or if the student has been too brief a time with the instructor to warrant giving him a grade this item will be marked I (incomplete).

PERSONAL CHARACTERISTICS
1 Personal appearance
2 Manner with associates
3 Manner with patients
4 General demeanor
5 Ambition
6 Initiative
7 Industry
8 Persistence
9 Promptness
10 Honesty
11 Loyalty
12 Reception of criticism

TRAINING—GENERAL
13 General intelligence
14 Use of oral English
15 Use of written English
16 Chirography
17 General medical training
18 Knowledge of anatomy
19 Knowledge of physiology
20 Knowledge of pathology
21 Knowledge of medical ethics
22 Comprehension of instructions
23 Faithfulness in carrying out instructions
24 System in work

DIAGNOSTIC
25 Skill in history taking
26 Skill in physical examinations
27 Thoroughness in physical examinations
28 Judgment in referring patients for special examinations
29 Judgment in interpreting results of special examinations
30 Judgment in summarizing cases

OPERATIVE
31 Quickness of vision
32 Knowledge of and faithfulness in asepsis
33 Manual dexterity
34 Ability to meet emergencies
35 Care of postoperative cases

GENERAL GRADE FOR WORK OF COURSE

On the basis of the work which the student has done under your instruction would you recommend him for reappointment at the end of his current Fellowship year?

Would you recommend that he change his Major? If so to what?

Would you recommend that he be asked to resign before the end of his current year?

General Remarks

Date Signed

If the ordinary university grades of A, B, C, D, and so forth, are used, it is a good rule that no student receiving a grade below that of B shall receive credit toward his degree for the work so graded. It would seem to be a fair rule also that any student receiving for two consecutive periods a general grade of D or lower should be requested to leave the institution. Opportunities for grade study of medicine on a university basis are altogether too few in this country to warrant their being wasted on mediocre and inferior men.

Examinations.—Since our present system of licensing practitioners in the various states of the United States is based entirely on examinations, we are under the necessity of giving examinations to graduate students if we are to send them out from the university with the university stamp on them. As a result, all graduate students who are candidates for degrees from the university should take examinations, both oral and written, and these should be more severe in the fields of the candidate's major and minor subjects than he is ever going to get anywhere else.

STANDARD FOR DEGREES

Aside from a satisfactory residence of a definite period which should be from three to five years for the graduate study of surgery, a satisfactory record of which has been filed at definite intervals and aside from the passing of the examinations herein suggested, what other requirements should be made of a prospective candidate for a graduate degree in surgery from a university before he may be properly recommended for that degree? In the first place it appears that he must be competent in his field, in other words, he must be an 'honest-to-goodness" surgeon. The only way this can be determined as a matter of record is on certificate from the surgeons with whom he has worked that in an emergency, they would be willing to send members of their own families to him for diagnosis and surgical treatment. If they are not willing to certify to the candidate's competence to this extent, the university should not grant him an advanced degree in surgery, since the granting of this degree will stamp the candidate as a surgeon competent to care for citizens of the state.

A further qualification should be that the candidate has shown that he has a scientifically trained mind, that he is capable of analyzing and synthesizing his own observations, either clinical or experimental, or both comparing them with those of other men doing similar work, and drawing logical conclusions therefrom. Though in many respects unsatisfactory, the production of a thesis which embodies such an analysis is perhaps the best means we have for the candidate to demonstrate his scientific ability in this respect.

One of the most important services that an institution should provide is that of careful revision by members of the faculty of all articles written by graduate students. Besides this criticism for truthfulness, accuracy, clearness and so forth they should be given careful editing by a competent editor, who will then laboriously explain to the writer the reasons for the changes made. The state of our medical literature at present is most deplorable. It will not be better until we give it more thorough and more constant attention. The undergraduate medical schools should do this work, the graduate medical schools must do it.

SUMMARY

The graduate of a Class A school who has had a minimum of one year's internship in a general hospital, who has had from three to five years' opportunity for graduate work in surgery, which has included at least six months of necropsy service, one year of diagnostic service, and one and a half or, better, two and a half

years of operative service, during all three of which services he has had constantly before him the necessity for using daily the essential underlying principles of anatomy, physiology, chemistry, pathology, bacteriology and pharmacology, until they have become to him absolutely familiar tools for the diagnosis and treatment of disease, who is above all a competent surgeon, who has passed more severe examinations in the field of surgery than he will ever be obliged to pass elsewhere, and who has prepared and defended a thesis of the character indicated, may properly be recommended for the degree of master of science in surgery or master of science in orthopedic surgery, as the case may be, to be granted by a properly constituted university of which the medical school is a part

Besides the foregoing, it sometimes happens, though unfortunately not often, that a graduate medical student shows that he has real research ability and demonstrates this beyond peradventure by making an actual contribution of considerable import to medical science For such a student, there should be reserved the degree of doctor of philosophy in surgery or orthopedic surgery Of course, in addition to the requirements outlined for the master of science degree, he should fulfil also those other minor conditions, particularly in relation to foreign languages, which are ordinarily required by universities of candidates for the degree of doctor of philosophy in other fields

CONCLUSIONS

I wish to urge the importance of graduate work in surgery, orthopedic surgery, or any other specialty being done in institutions where work in other fields of medicine is going on at the same time Isolation, in the long run, is a serious handicap The daily association of men who are engaged in other fields, the discussions with them in informal conferences and, especially, the frank criticisms of each other in staff meetings at which are read the articles which are the results of scientific study in the institution, all conduce to a much broader view of a specialty and to the making of much broader men who are to practice in the specialty

ABSTRACT OF DISCUSSION

DR DEAN LEWIS, Chicago The training of the surgeon is a timely but rather large subject for discussion It seems rather a reflection upon surgeons that a pathologist should apparently consider it necessary and eminently fitting that he should outline the courses of graduate instruction necessary to make a well rounded surgeon and then pass upon his qualifications Dr Wilson has discussed the graduate training and as this rests upon a sound and sufficient undergraduate training, I consider that I shall not be digressing from the discussion if I mention some of the things in undergraduate work which are necessary to the proper training of a surgeon In the first place men graduate too late in medicine They should graduate much earlier so that they may devote their early productive years in concentrated effort upon the work which they choose to follow The second feature which militates against good training is the lack of cooperation of departments and coordination of teaching It should be possible to establish a curriculum which will give the best preparation, but this will never be possible until department heads are willing to sacrifice for the common good The curriculum and methods of instruction in vogue today are of the spoon feeding type There is too little effort made in the development of critical analytic ability and to discourage the acceptance of any dogma laid down notwithstanding insufficient data upon which deductions are made We constantly hear about the teaching of principles If a student in surgery had spent a few hours in this section yesterday afternoon, I do not believe that he would have been able to unravel the skein of principles involved in the treatment of fractures It is not so long ago that the operative treatment of fractures threw into the discard most of the thoroughly established principles of the treatment of fractures which are just now being rescued This merely shows how enthusiasm and propaganda can overthrow old established principles It is difficult to say how the sound principles of surgery can be preserved when enthusiasm unchecked by critical ability and sound reasoning is rampant No one denies the necessity of a sound pathologic training but how to stimulate the student in the study of pathology is a great question I would make the surgeon an excellent diagnostician, an expert pathologist, a good physiologist and an expert and sound operator This is a difficult thing to do and it requires years of preparation A man must be an idealist to secure the training necessary to fit him for the practice of surgery, and he is often discouraged in finding that he is handicapped in the competition discovering frequently that surgery is sold to the highest bidder Fee splitting interferes more with the training of the surgeon than the limitations of the students or the imperfections of our medical schools and clinics

DESENSITIZATION OF HAY-FEVER PATIENTS BY INJECTION AND LOCAL APPLICATION*

A H W CAULFEILD, M B
TORONTO

The localized desensitization which may take place after one has produced a reaction in testing a patient against pollens or proteins has been outlined by MacKenzie and Baldwin[1] Their preliminary experiments showed the degree and duration of the cutaneous exhaustion which might follow an initial test At this time they anticipated "the probability that by local application of pollen or dandruff extracts to the mucous membrane of the nose and throat of patients with allergic rhinitis the reactivity might here also be abolished"

The observation on my part, that specific cutaneous sensitization might disappear over night from a very considerable part of the same forearm which previously had been tested and found positive, led me to consider the possibilities of applying therapeutically the principles underlying the phenomenon This change in local reactivity was drawn to my attention by the more or less routine testing of both bronchial asthmatic and hay-fever patients, and was not followed up by a series of carefully controlled experiments such as were made by MacKenzie and Baldwin

In selecting ragweed as the particular pollen with which to try local application, I was influenced by the fact that it is with the ragweed-positive cases that one experiences the greatest difficulty in obtaining satisfactory desensitization and freedom from clinical symptoms The possibility of further influencing the reactivity of the mucosa by utilizing local application as well as by subcutaneous injection would appear to be the logical basis on which one would expect the

* Read before Ontario Medical Association June 1 1922
* From the Research Division of the Connaught Antitoxin Laboratories University of Toronto

1 MacKenzie G M and Baldwin L B Observations on the Specific Exhaustion of Cutaneous Reactions Proc Soc. Exper Biol & Med 18 214 1921 Local Desensitization in Hay Fever Individuals and Its Bearing on the Prevention of Hay Fever Arch Int Med 28 722 (Dec) 1921 MacKenzie, G M Desensitization of Hay Fever Patients by Specific Local Applications J A M A 78 787 (March 18) 1922

clinical results to be associated In this connection it is to be remembered, however, that patients may show after successful subcutaneous treatment either positive or negative cutaneous sensitization to the pollen or protein against which they have been injected In any event, the data which might be obtained from locally applying the antigen to the mucosa seemed sufficient to justify its trial on general, as well as on therapeutic grounds

The introductory references to the literature by MacKenzie [2] are so similar to those which had appealed to me as relative to the subject that I feel I may omit this aspect beyond perhaps drawing attention to the observations by Besredka [3] that the introduction of antigen through the upper respiratory tract is a satisfactory means of inducing immunity, and that through this channel also it is possible to induce anaphylactic shock in properly sensitized guinea-pigs Parker's [4] demonstration that ragweed has true antigenic properties seemed to favor the selection of this pollen for the evaluation of local application and for any further work which might be suggested by the observations attendant on its application locally

The groups of patients summarized in Table 1 suffered from seasonal hay-fever, they were tested and found positive to different pollens which, in view of the seasonal character of their symptoms, afforded reasonably certain evidence that their symptoms were due to pollen sensitization In estimating the number of seasons involved, previous experiences were disregarded unless the pollens indicated by such past experiences gave positive reactions Patients will not infrequently state that previously they suffered from symptoms which began in early summer and continued till the late autumn, but that latterly symptoms had begun only with the onset of the autumnal variety, the reverse of this, namely, an increase in the seasonal duration of symptoms, is perhaps as frequent

The cases taken for analysis include all those treated except (1) a few who have failed to reply to inquiries regarding the results experienced, and (2) a number whose injections were far too few to warrant any conclusion being drawn therefrom A certain number have been included to whom the full course of treatment was not given, because they either began too late or were absent during periods of their treatment A rigid adherence to only those who had taken a full course previous to the approximate date of onset would exclude a number who experienced very satisfactory results

Local application was made by inunction, the ragweed pollen being ground up (mechanically), and quantitatively mixed with phenolated petrolatum in dilutions [5] of 1 2, 1 20 and 1 200 Each dilution was put up in collapsible tubes, and applied by expressing a convenient volume on the little finger of the patient, and thoroughly rubbing into the nasal mucosa

MacKenzie obtained local application by spraying the mucosa While this would seem to have the advantage of reaching a greater area, a number of small considerations led me to select inunction The dose was increased by mixing varying proportions of two strengths on the finger in advancing from the first application of the 1 20 strength to that of the 1 2 strength, for example

METHOD OF GENERAL AND LOCAL DOSAGE

Injection [6] was given twice weekly except in the few instances in which the local reactions [7] were sufficiently severe to warrant a temporary postponement During the prophylactic treatment the inunctions were made in nearly all cases at the time the injection was given in a few the inunction was made by the patient at home a day or so following the subcutaneous treatment The preseasonal treatment was, as far as possible, planned so that the full course would be finished sometime during the week or ten days following the date of onset of the patient's seasonal type In suitable cases after the completion of the injections, tubes of the 1 2 strength of ointment were given to the patient for a limited continuance of local application The number of pollens against which desensitization was attempted in each case is shown in Table 1 The factors on which this was decided were the degree and relative sensitization, as shown by the cutaneous tests, the history of seasonal symptoms, and the time available for treatment The frequent absence of relative cutaneous sensitization, as exhibited by different patients, between, for instance, the various grasses used in testing and among these the occasional absence of a positive test to either timothy or red top pollen, has led me to believe that treatment on the assumption of group reaction will not be as satisfactory as treatment based on the tests, repeated preferably during the season of attack This conclusion is supported, among others, by Watson and Kibler [8]

In planning early in 1921 a trial of local application I had intended to use alternate cases so that afterward the results could be compared with those obtained by injection alone As my experience with it increased, such a plan of comparison was abandoned, and the combined method was used in the majority of cases because of one or another of these considerations

1 The combined method gave me the impression that dosage could be more rapidly increased with less local,

2 Mackenzie G M (Footnote 1 third reference)

3 Besredka A De l action des serums par la voie respiratoire Ann de l Inst Pasteur 34 361 1920

4 Parker, Julia T The Antigenic Properties of Ragweed Pollen Proc Soc. Exper Biol & Med 18 237 1921

5 These *frictions refer to* that dilution of a stock concentration of 1 70 This method was used so that the dilutions in ointment should correspond to the amounts used in the solutions made for injection

6 All pollen solutions were put up in four dilutions of the stock solution which was made up by grinding 1 gm of pollen in 70 c c of diluent These extended from a 1 20 000 dilution to a 1 10 Occasionally a 1 4 solution was made and used A preliminary desensitizing dose of 0 2 5 c c was given from a 1 200 000 solution (of the pollen or pollens to be used) at each treatment If for any one treatment more than one pollen was used the amounts from the different solutions desired were all drawn into the syringe before injection With some attention to detail it was nearly always possible to keep the total volume below 1 c c and at the same time give the different solutions desired at the time

The rate of increase was judged by the reactions caused by the previous dose on which the following rules might be taken as approximate guides A If no local reaction was induced in either arm (from the desensitizing or therapeutic injection) the dose was increased four to five fold or more depending on circumstances B If a local reaction was induced in one arm only (therapeutic injection) the dose was increased from two to four times depending on the severity of the reaction C If a local reaction was induced in both arms the increase should be slight and under twice N B 1 The greatest care must be exercised as one nears the more concentrated solutions 2 Particularly after more than one large increase in the dosage without local reaction extreme caution should again be used as it is apparently possible suddenly to overstep the threshold and induce an almost instantaneous general reaction without the warning of having obtained local reaction

7 For the comparatively few instances in which a general reaction has followed the injections given as outlined I have always found epinephrin of immense value I believe it should always be available Given hypodermically in from 0 5 to 1 c c doses it is often startling in the rapidity of its effect The subject of reaction should I feel not be mentioned without emphasizing its dangers—even that of death R A Cooke in a comprehensive discussion of this aspect (Studies in Specific Hypersensitiveness J Immunol 7 119 145 [March] 1922) both endorses epinephrin as the best drug available and advocates strophanthin in selected cases In my four years experience with pollen and protein desensitization I have had only two instances of a delayed general reaction of any severity in both of which the approximate guides suggested in these remarks were for different reasons ignored

8 Watson S H and Kibler C S Etiology of Hay Fever in Arizona and the Southwest J A M A 78 719 (March 11) 1922

and less tendency toward a general reaction than by injection alone 2 The season last year was advanced, and one was pressed for time in which to achieve prophylactically the amount of desensitization desired 3 Considerable guidance with regard to dosage was afforded by the absence or degree of nasal reaction to the injection 4 Treatment could be continued, i e, dosage increased by local application if the patient was forced by circumstances to miss the injection Under these circumstances, the combined method was used in most of the difficult cases

The small number of cases and the modifying circumstances in many instances would seem to justify impressions rather than statistical studies of the respective value of the methods of desensitization outlined in this paper Comparative evaluation of their therapeutic effectiveness with that reported by others is rendered difficult because of the lack of uniformity in the classifications adopted with regard to the degree of protection obtained In consequence, the definitions which follow—and have been used in this paper—are an attempt to suggest a set of classifications which combine certain features common to previous publications, and which are compatible with the divisions suggested by my own experience

1 Complete freedom, to include, as well, those who reported an occasional transient attack of sneezing or nasal moisture, or an occasional prodrome, not realized symptomatically The intervals, constituting practically the entire season, are to be without symptoms Estimated value, from 90 to 100 per cent

2 Practical freedom, to include those who were able to continue all their occupations or exercise (train, golf), with no prolonged attacks (part of a day only), and those infrequent, or one short series of more or less continuous mild attacks, following which freedom to be complete Estimated value, 75 per cent

3 Marked benefit, to include those who experienced attacks, but none to compare with their former experience and to have had long periods of freedom, may or may not have continued their vocation or avocations Estimated value, 50 per cent

4 Slight or no benefit, to include those whose relief was less than that defined in the third class

5 Aggravation, to include those who obtained no benefit and whose symptoms were seemingly worse than formerly experienced This fifth class may suit the results obtained in certain cases, particularly in view of the varying severity of seasons in different years, but for practical purposes groups 4 and 5 may be considered identical

The patients in Table 1 have been grouped according to seasonal type, and in the results of treatment column for last year each season has been considered separately Because a greater proportion of the cases (those that were ragweed positive, that is) were given the combined treatment, the results obtained previously have been utilized as a type of control

The column labeled "difficult" refers to the manner in which the patient responded to increase in dosage If the necessary increase, because of the imminence of the time of onset, induced sufficiently severe reactions to retard the desired progress, the case at once became in varying degrees difficult to treat The degree in which this occurred is approximately shown by the use of the plus sign

In the comment column, the observations have been confined to bronchial asthma as an all season complication, if due to proteins as shown by appropriate tests, or to bronchitis if severe "Late" means that only to a limited extent was the treatment preseasonal "Interrupted" and "incomplete" refer to the course of treatment "Out of town" means that the course was completed by cooperation with others living outside Toronto In varying degrees these factors militate against the best results, and hinder satisfactory comparison

TABLE 1—ANALYSIS OF CASES

Case No	Seasons: Spring	Seasons: Summer	Seasons: Autumn	No. of Pollens Injected	Injections Only	Combined Treatment	Difficult	Therapeutic Results: Previous Year	Therapeutic Results: Last Year	Post Treatment Sensitization	Comment
Group 1											
1	+			2	+				2	?	Late
2	+	+		4	+				11	0	
3	+	+	+	9	+			11	1,11	—	
Group 2											
4		+		1	+				1	0	Bronchial asthma
5		+		3	+				1	—	Bronchial asthma
6		+		4	+				1	—	
7		+		1	+			1		0	
8		+		4	+				1	0	
9		+		4	+		+	2	2	+	Late
10		+		3	+			3	2	0	Out of town
Group 3											
11		+	+	2	+		++	3		0	Late
12		+	+	2	+			11		0	
13		+	+	3	+				12	0	Interrupted out of town
14		+	+	8	+		++	2,3	13	+	Late incomplete
15		+	+	5		+	+	11	12	+	
16		+	+	3		+		11	12	?	Out of town
17		+	+	6		+			11	?	
18		+	+	7		+	+		11	?	
Group 4											
19			+	2	+			1		—	
20			+	3	+			2		0	Incomplete
21			+	3	+		+	2		+	Late
22			+	3	+				2	+	Bronchitis
23			+	3	+				1	?	Bronchial asthma
24			+	2	+		+		3	0	Incomplete
25			+	3	+				1	?	Late
26			+	3	+		++		4	+	Late incomplete
27			+	2	+		++		4	0	Late incomplete out of town
28			+	2		+	+++	4	2	?	Prev year late and incomplete
29			+	3		+		2	2	+	
30			+	2		+		1	1	—	
31			+	2		+	+	4	2	?	Prev year incomplete out of town
32			+	3		+		1	5	++	
33			+	3		+		3	1	—	
34			+	4		+	++	2	2	?	Late incomplete
35			+	3		+		2	1	?	
36			+	1		+		2	1	—	Bronchitis
37			+	3		+		1	1	0	
38			+	1		+			3	+	
39			+	3		+	+		1	—	
40			+	3		+	+++		4	++	
41			+	9		+	++		2	?	
42			+	2		+			3	+	
43			+	3		+			1	—	

The sign + signifies a marked cutaneous reaction the sign ? a reaction of doubtful degree (from 4 to 6 mm) the sign — no reaction or one less than 4 mm the sign 0 that post treatment tests were not made The figures under column Therapeutic Results refer to the foregoing classifications

In the first group of three cases, five seasons were completely free and one season practically free, in which latter the treatment was only partially prophylactic all the higher dilutions being given during the earlier part of the season The third patient suffering throughout all three seasons illustrates a mild type of autumnal attack in contrast to the spring and summer The previous year, fairly severe symptoms developed in September after a free spring and summer Tests done then showed ragweed and goldenrod to be positive both of which had previously been negative

In the second group (summer hay-fever only) there are five instances of complete freedom, one of which was obtained the previous year and last year remained free without treatment In the two remaining cases, which were practically free, the treatment could not be regarded as ideal, as one patient was late and treatment was continued during the season, while the second was to a great extent out of town

In the third group (combined summer and autumnal variety) there are, as regards the summer type, six instances of complete freedom out of six cases treated last year, the case with complete freedom during the previous year remaining free last year without treatment As regards the autumnal type, there are two instances of complete freedom, three of practical free-

TABLE 2—DEGREE OF PROTECTION

	Group 1 (Spring Included)	Group 2 (Summer Only)	Group 3 (Summer and Autumn)	Group 4 (Autumn Only)	Number	Per Cent	
Complete freedom	2	5	3	10	20	46 5	
Practical freedom	1	2	3	8	14	32 6	90 7
Marked benefit	0	0	2	3	5	11 6	
Little or no benefit	0	0	0	3	3	7 0	9 3
Aggravated	0	0	0	1	1	2 3	
Total	3	7	8	25	43		

dom and one of marked benefit In these less satisfactory results, the factors militating against success such as lateness, interruption and incompleteness, are noticeable Four cases were treated by the combined method, and despite difficulties in treatment, and the factors as noted in the last column, two complete and two practical "reliefs" were obtained

In the fourth group (twenty-five cases of the autumnal type) twenty-two cases were treated last year, among which there are nine instances of complete and six of practical freedom, three patients obtained marked benefit, three slight or no benefit, and in one case the symptoms were aggravated Success was jeopardized by the poor opportunity for treatment in one of the three obtaining only marked benefit, and as well, in two of the three with no benefit No such explanation, however, can be advanced as a cause for one case of no benefit, and for the case which was aggravated, but which the previous year was completely protected

Table 2 summarizes the degree of protection In this the results for each season are not taken into account as they were in *Table 1, the most unfavorable* outcome being taken as indicative of the protection obtained

Local application was employed with twenty cases out of the thirty-three in Groups 3 and 4 These numbers are obviously too small to serve as a basis for any conclusion, moreover, the different circumstances militating against a fair trial were too frequently present in both the injection and combined treatment groups Without attempting to assess these varying factors, the percentage results obtained show that the combined treatment in contrast to injections alone was slightly more successful The figures for combined treatment versus injection alone respectively are in complete freedom 45 and 30 7 per cent, in practical freedom 35 and 30 7 per cent, in marked benefit 10 and 23 per cent, and in no benefit, including aggravation, 10 and 15 3 per cent

In Table 1, the results of sensitization after treatment have been noted because a consideration of these suggest that, when this is marked, the combined treatment may be contraindicated An attempt was made to ascertain the correlation between the cutaneous and the nasal reactivity in a few cases The contrast afforded among these cases so tested showed a fairly marked degree of similarity, when one considers the relative character of the amounts used and the difference in the methods used to elicit this Apart from any theoretical considerations, an analysis of the degree of post-treatment sensitization and the therapeutic results show that in both Groups 3 and 4, there were six cases treated by the combined method in which the post-treatment sensitization was marked The results in these were three of no benefit, including the one case of aggravation, two of marked relief, and one of practical freedom This proportion of poor success or failure is greater than in the other treated by the combined method, and also greater than that obtained in similar cases treated by injection alone Admittedly, the numbers are too small, but the effect at least raises the question of the advisability of using local application in those cases in which previous tests have shown marked cutaneous sensitization after injections alone, especially if the results obtained had been satisfactory

The conclusions drawn by MacKenzie, using a different method of local application by itself, combined with and contrasted to hypodermic injections alone, left me with the impression that he considered its further use justified My results lead me to concur with the restriction that it may be contraindicated in certain individuals

OBSERVATIONS ON THE DISTRIBUTION OF VITAMIN B*

SAMUEL R DAMON, PH D
BALTIMORE

The absolute necessity of an adequate supply of vitamin B, in the dietary of growing animals, if growth is to be maintained at a normal rate, is a fact that has been established beyond question Among the earlier observations on this point were those of Osborne and Mendel,[1] Hopkins[2] and Stepp[3] These authors, working independently, arrived at the same conclusions, although their ideas as to the nature of the hypothetic substance were at variance Since that time, research has led to the demonstration of vitamin B in "milk, rice, wheat embryo, cotton seed, pancreas, maize kernel, wheat, oat, kidney beans, yeast, ivy beans, peanut meal"[4] and many plants used as food in the form of 'greens," such as asparagus, celery, dandelions and lettuce[5]

An adequate supply of vitamin B is necessary not only because of the growth stimulating properties of the vitamin itself but also because of its influence on the general food intake of the animal[6] All experimenters in the field of accessory food substances have observed the stimulating effect of an adequate vitamin supply on

* From the Department of Bacteriology School of Hygiene and Public Health, Johns Hopkins University

1 Osborne T B, and Mendel L B Pub 156 Parts 1 and 2 Carnegie Institution of Washington 1911

2 Hopkins F G J Physiol 44 425 1912

3 Stepp W Biochem Ztschr 22 452 1909 Ztschr f Biol 57 135 1911 1912

4 Osborne T B and Mendel L B J Biol Chem 32 309 (Dec) 1917

5 Osborne T B and Mendel L B Further Observations on the Distribution of Vitamin B in Some Vegetable Foods J A M A 78 1121 (April 15) 1922

6 Cowgill G R Am J Physiol 57 420 (Oct) 1921

the appetite of their animals These substances need be present in only minute quantity, but their presence is essential It is this relation to appetite and food intake that prompts this report

In the course of certain studies on bacterial nutrition it became of interest, at one time, to test the basal ingredients of culture medium of organic origin, i e, peptone and beef extract, for their vitamin content This research was especially indicated, since the literature is not clear on this point Bayliss,[7] in his discussion of the growth promoting principle "Bios," says "It is present in Liebig's meat extract and commercial peptone" Funk[8] reports the presence of vitamin in meat juice and meat extract and Osborne and Mendel[4] as well found "a small amount of the water soluble food hormone" in meat extract

EXPERIMENTAL METHODS USED

The tests were carried out on young rats, weighing from 50 to 75 gm, which were failing to grow on a diet known to be adequate to promote growth at a normal rate when sufficient vitamin B was supplied The food mixture consisted of casein, 18 per cent, sugar, 17 starch 52 5, butter fat, 10, and salt mixture, 2 5 Inspection shows this mixture to be adequate except for the deficiency of vitamin B

The peptone and beef extract were added to this ration in place of definite quantities of starch Each substance was tested in the amount of 2 5 and 7 5 per cent of the ration

RESULTS

In no case was the decline of the experimental animals stopped by the addition to the ration of definite quantities of either peptone or beef extract

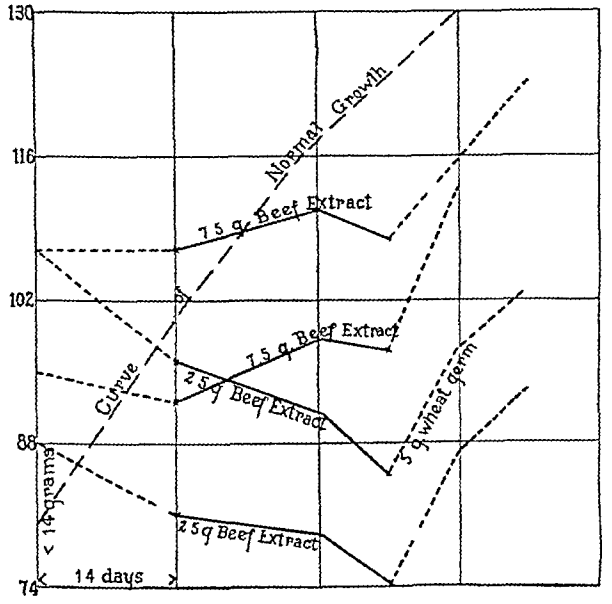


Chart 1.—Failure of rats that had declined on a diet deficient in vitamin B to recover when beef extract was added as a source of this factor

The accompanying charts show typical growth curves of rats fed this experimental ration The initial period of decline, on a diet deficient in vitamin B, is indicated by the dotted line Following this is the period when the animals were fed the same basal ration plus the peptone or beef extract and failed to recover, and finally there is the period of recovery, indicated by the rapid rise of the growth curve when the basal ration was supplemented by wheat germ as a known source of vitamin B

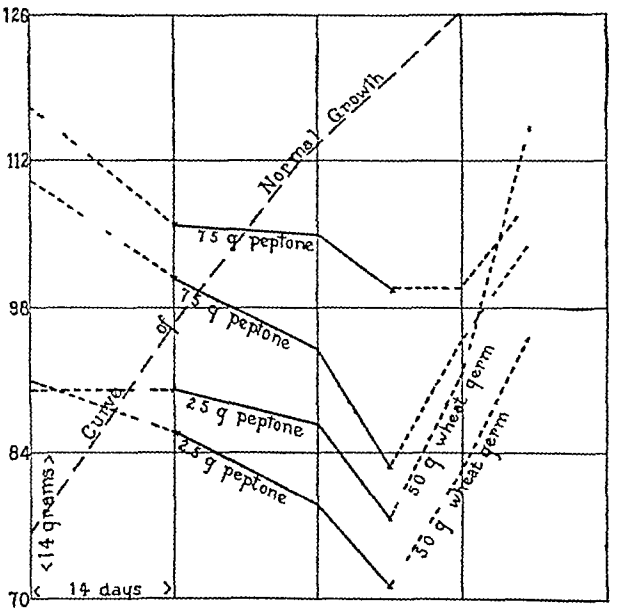


Chart 2.—Failure of rats that had declined on a diet deficient in vitamin B to recover when peptone was added as a source of this factor

CONCLUSIONS

Commercial beef extract and peptone are devoid of the water soluble vitamin B

NOTE.—The importance of these observations in connection with the use of beef extract in convalescence will be recognized by all who heard Dr Mendel at the recent Congress of American Physicians and Surgeons in Washington describe the relation of vitamin B to appetite and food intake

THE PRACTICAL APPLICATION OF THE RESULTS OF VITAMIN STUDIES

L. EMMETT HOLT, M.D.
NEW YORK

Our knowledge of vitamins has given a new basis for the evaluation of foods Certain articles which, from the point of view of their energy value, are almost worthless have been shown to possess great nutritive value Their importance is not suggested by their chemical analysis They furnish something very essential in a human diet

The tomato, cabbage, spinach, lettuce, chard and all the green or leafy vegetables are composed chiefly of cellulose, water and inorganic salts Fruits have sugar, vegetable acids, water and salts, but none of these things suggest their essential value as foodstuffs

Many of our foods we no longer eat in their natural state The conditions of modern life have made necessary the transportation of foods for long distances and the preservation and storage of food in immense quantities for long periods A certain amount of injury is done to our vegetables, fruits, milk, meats and grain by the processes to which they are subjected in preparation, preservation and storage The study of vitamins has helped us to understand, to some degree at least

7 Bayliss W M Principles of General Physiology 1915 p 260
8 Funk C Munchen med Wchnschr 1913 p 2614

the nature of that injury Some of it is due to the heat applied during our ordinary processes of cooking, some is a consequence of heat applied for purposes of sterilization, whether for the destruction of the germs of disease or for the preservation of food

We have also sacrificed something in their nutritive value by the refinement of our foods, as in polishing rice and using only the white flour of our wheat to make our bread, and feeding to pigs and cows the balance of the grain The coarse black bread of the middle ages and of the European peasant of today is despised by our modern civilized city dweller

But let us not at the same time forget the immense benefits of the preservation and storage of food Take, for example, the question of white wheat flour As long as wheat was grown and milled, as it still is in most European countries, within a comparatively short distance of the place where it was consumed, and was used within a few weeks of milling, the problem was a simple one *At present much of our milling is done* 1,000 or 2,000 miles from our large centers of population Not only must the time required for transportation be taken into account, but also the necessity for storage of immense quantities as a normal food reserve New York City, for instance, consumes more than 20,000 barrels of flour every day Much of this, it is estimated, has been milled five or six months before it is eaten White wheat flour keeps indefinitely, certainly for many months, without any important deterioration But whole wheat flour can be kept only about thirty days, after that it is likely to become "wormy" Flour experts tell us that the general adoption of whole wheat flour for bread in this country is an economic impossibility The modern method of milling and our system of transportation and storage make a bread famine here almost impossible

Although heating milk may injure or destroy its vitamins, this fact does not invalidate its great advantages, such as protection from diseases which may be communicated through milk and its preservation by drying, condensing or sterilizing, which permits its wider use as a food all over the world The same may be said of the canning and drying of vegetables, fruits and eggs These preserved foods are all of great benefit in the nutrition both of children and of adults We would not stop the use of them if we could

Our knowledge of vitamins has, however, pointed out that these procedures have their disadvantages, even their dangers, but when the nature of these is once thoroughly understood and their importance appreciated, the remedy will come also

In the food of infants it is only vitamin C that is likely to be injured by any process to which their food, chiefly their milk, is subjected in preparation or preservation In the first place, it should be understood that the amount of this vitamin in milk is small Chick and Hume found that, to protect a guinea-pig, whose food contains no other source of this vitamin, 100 c.c. daily of fresh milk is required, although complete protection is secured by only 1.5 c.c. of orange juice

It is well established that all heating of milk (I do not, of course, mean warming for feeding) whether by boiling, pasteurizing, sterilizing, drying or condensing, injuries this vitamin It has not been shown that vitamin A or vitamin B in milk is thus injured The amount of injury done to vitamin C depends on the height of the temperature and the length of the period during which the temperature is maintained, and possibly on whether the heating is done in open or in sealed vessels The duration of the heating seems clearly more important than the temperature employed Short heating at a high temperature apparently does less injury than prolonged heating at a lower temperature, so far as its effect on this vitamin is concerned, boiling for five minutes seems better than pasteurizing for thirty minutes

While there is still considerable difference of opinion among investigators as to the relative amount of damage done by various types of heating, it may be regarded as proved that they all injure milk in this respect, and that the only safe rule in practice is to supply some efficient antiscorbutic in the diet of all infants reared on milk treated in any one of these ways

Evidently the body has a sufficient store of this vitamin to meet its needs for a considerable time for symptoms of scurvy do not usually appear for some months after the deficient diet has been taken Of *the last nine cases of infantile scurvy treated in my* hospital service, the period was between five and seven months in seven, and in none more than nine months

If the food contains even a small amount of antiscorbutic vitamin, the development of scurvy will be delayed To infants whose principal or sole food is any one of the forms of heated, dried or condensed milk, it would appear, then, to be quite sufficient if an antiscorbutic were begun at the age of 5 months

The observations of Hart, Steenbock, Ellis and others indicate that the vitamin content of cow's milk is affected by the food of the animal This was first shown to be true of the vitamin C The winter milk of stall-fed animals was decidedly poorer in this respect than the summer milk of pastured animals The same law seems to hold with respect to all the vitamins If the food of the cow does not contain an adequate supply, the milk may be deficient in any or in all of them It would seem, therefore, a wise precaution during the winter to supplement cow's milk by other foods known to be rich in this vitamin such as the yolk of egg or the juice of steamed green vegetables, but best of all by cod liver oil

The vitamin content of the food of the nursing mother undoubtedly affects her milk in a similar way This may furnish a clue to some of the puzzling cases of scurvy developing in nursing infants

It is reported that, among the Filipinos, beriberi is common among the nursing children of rice-eating mothers of those islands This is believed to be a large factor in the extremely high infant mortality that is seen there

These facts may explain why infants do not thrive on some milks, although the supply is abundant and the proportion of the different constituents, as shown by chemical analysis, is within normal limits

The practical application of these facts is, first, to recognize the necessity of supplying to nursing mothers a diet which is ample in all the vitamins Vitamin A and vitamin C are the ones most likely to be lacking in the diet of the poor These vitamins are abundantly supplied by milk, eggs, green vegetables and fruits, all of which unfortunately are expensive foods but should be included in the diet

I have never seen and have never known of a case of scurvy in a child over 2 years old who was living under normal peace conditions So far as vitamin A —so indispensable for the growth of children—is concerned, it is necessary only that care be taken that the

diet include an ample supply, since it is not likely to be injured in the preparation or preservation of food

We know well the dangers of vitamin deficiency when the diet is necessarily restricted, because conditions do not admit of choice or variety of food These conditions exist in times of famine or great food shortage, or even may be the result of poverty, also in prisons, army camps, on shipboard, in the arctic regions and, one must add, in infancy The consequences to children are serious, whether we consider simply arrested growth and general malnutrition or the diseases, such as scurvy and beriberi, which result from marked and prolonged deficiencies But it does not seem probable that, except in conditions like those mentioned, either children or adults who take the average or usual diet are likely to receive such small quantities of the vitamins as definitely to interfere either with growth or normal nutrition

A glance over the list of foodstuffs known to contain the different vitamins shows how abundant vitamins are in most common foods This may be one of the reasons why, in the evolution of the diet of the human race, certain foods have a place It seems perfectly evident that, unless the diet given is a very one-sided one, children receive in their usual food a liberal supply of all these essential food constituents

Two very striking things are brought out in the investigation of vitamins by observations on animals One is the very small amounts which are apparently required to produce their effects, and the other is the specificity of their action

Until these substances have been isolated, we shall not know the amounts required for normal nutrition Apparently, the amount of any one of them is not large

Chick, Drummond and their associates at the Lister Institute have shown how much of different foods is required to protect laboratory animals against beriberi and also against scurvy, when the diet contained no other source of the vitamin in question While this establishes much that is important with regard to the relative value of foods, it gives us no idea as to the actual amounts required by human beings All the evidence goes to show that the vitamin requirement is affected by many conditions It undoubtedly varies even in animals Laboratory animals in confinement might be expetced to show effects of deficiencies in diet sooner than those living under natural conditions It is well known that men who were much exposed and doing hard work were affected by scurvy sooner than others, although all had the same diet If the human diet is poor in other respects, the effects of the absence of the antiscorbutic or any other vitamin is more quickly apparent

How much of the different vitamins is needed for health we do not yet know It is clearly not a definite amount for all human beings of the same age, sex and weight, but, like our other food requirements, the vitamin need no doubt varies with many conditions

The great importance of vitamins for growth makes it imperative that the diet of children especially should contain the articles of food that are rich in these factors The requirements of adults are for maintenance merely and undoubtedly are much less than those of children This is especially true of vitamin A

It is during the period of infancy that children are likely to suffer most first since infants are the most susceptible of human beings to all adverse conditions, secondly, infancy is the period of most rapid growth, and anything which may affect growth produces its most marked effects at this time, and finally, the diet of infancy is necessarily a restricted one

Proprietary foods are harmful, not so much from what they contain as from what they lack They may be deficient in all three of the vitamins

The specificity of action of these substances is quite as great as that of antitoxin in diphtheria or thyroid extract in cretinism The different vitamins seem entirely independent of one another in their activity They are in no way interchangeable, they seem to have no relation to one another We cannot supply a deficiency in vitamin B by giving more of vitamin A, nor can we protect against scurvy by the most liberal allowance of vitamin B Each one has a perfectly definite function in nutrition, which, from all evidence now in our possession, can be performed by it but by nothing else

If no vitamin deficiency exists in the diet, it does not seem probable that general symptoms of malnutrition in children past the period of infancy who are taking a varied diet are due to a deficiency of any of these factors, or that improvement in general nutrition is likely to follow their administration in larger amount, when no real deficiency exists In other words, benefit from an excess of any of them seems most improbable, and we lack proof that such is the case

Another practical question is whether if the diet is low in its vitamin content, i e, a condition of relative deficiency exists, there may occur perhaps not frank scurvy, beriberi, rickets or keratomalacia, but milder and less definite symptoms, such as failure to make normal progress in growth malnutrition and general evidence of ill health This is something difficult to establish On *a priori* grounds it seems not improbable It must be remembered, however, that symptoms such as those mentioned may be due to a great variety of causes other than vitamin deficiency In the absence of definite means of diagnosis, the only evidence of their dependence on vitamin deficiency is the therapeutic test, namely prompt and decided improvement, which follows when foods known to be especially rich in the different vitamins are added to the diet—such as orange juice or yeast or cod liver oil

Reasoning from experience with deficiency diets in animals, one would expect to see improvement in a few weeks In this connection one is reminded of the "patent medicine" advertisement which ran somewhat as follows 'If you are not cured you haven't got the disease The remedy never fails"

It should first be evident from an analysis of the diet that a deficiency probably exists The changes made should be as carefully planned as are laboratory experiments with rats or guinea-pigs Otherwise the results reported to follow are likely to depend on either the faith or the skepticism of the observer

Some suggestive observations on the use of antiscorbutic vitamin have been made by Hess and others, in which the weight curve of infants showed a prompt rise on addition of orange juice to the daily diet, but in many or most of these cases the diet was known, or at least strongly suspected, to be poor in this factor

Vitamin B has been urged upon the profession in the form of yeast as being especially important for children who are not making the normal gain in weight, who suffer habitually from poor appetite, chronic constipation, etc My own experience has been one of complete disappointment

However, in view of the important part which we now know to be played by vitamins in nutrition, it behooves the physician in all cases of malnutrition, particularly when the explanation is not obvious, to investigate carefully the character of the food and its preparation to discover any errors that might result in a vitamin deficiency Especially is this necessary in the case of chronic invalids or of delicate children whose diet has become greatly restricted from necessity or from caprice, and in the case of infants, whose diet is always a restricted one But, until we have some more certain means of diagnosis than we now possess, the indiscriminate use of vitamins in other circumstances than the foregoing for what is often referred to as "general results" is not likely to be beneficial, it should be discouraged It is hardly scientific therapeutics

It is most unfortunate that the popular interest in vitamins, which is the result of so much recent publicity as has been given to this whole subject, should be exploited commercially Just now vitamins are in fashion and as much capital as possible is being made of this fact The medical profession, at all events, should not be carried along in the popular current Important and indispensable though vitamins are, one can fall into no greater error than to assume that vitamin deficiency is the chief cause of all chronic nutritive disorders, just as not very long ago these were all referred to autointoxication, and at present a certain group would have us believe that they are due to some disturbance of the glands of internal secretion The use of vitamins without definite indications will be popular for a period but, like other fads, it will pass With time and further investigation, their true place will be determined

Our knowledge of vitamins has taught the necessity of a variety of food and the danger which follows when conditions make a choice of variety impossible It has taught us also the incomparable value of certain foods, particularly of milk, not only in infancy, but during the entire period of growth, also the importance in the diet of children of the green or leafy vegetables The chief objection to some, such as cabbage, lettuce and celery, when used in a raw state is the difficulty of making children masticate them properly

Our knowledge of vitamins has greatly helped to put the whole subject of nutrition on a scientific basis The experimental method has been substituted for the empiric one in determining the value of the different foods Formerly we might know that certain foods were desirable or necessary, now we are able in very many cases to say why such is the case and to determine their precise value in nutrition A knowledge of vitamins has furnished a key to many problems in nutrition which before were obscure or insoluble

Until they have been confirmed by clinical experience there is, however, some danger in relying too much on the results of laboratory observations on animals of a different species, whose physiologic needs may be different from those of human beings

The study of vitamins has taught us several important things regarding the nutrition of children

Children should eat a variety of food, and special dangers may follow the habitual use of a very restricted diet

Milk is the one indispensable food for children The diet during the entire growth period should include, if possible, whole milk, or if skimmed milk is used it should be supplemented by butter Of the butter substitutes, those which contain beef fat, mutton fat and peanut oil are better than those in which other vegetable oils or lard are important constituents

A diet which includes no milk whatever should contain ample amounts of the green or leafy vegetables

Cereals, particularly those from whole grains, and potato are important and adequate sources of vitamin B

Fruits have other uses than as laxatives and as sources of mineral salts, they should form a regular part of the diet When fresh fruits are not available, dried fruits may be given, but they are distinctly inferior to canned tomatoes as sources of the antiscorbutic vitamin

Cabbage is such a rich source of all the vitamins that it should form a larger part of the diet than is usually the case, especially since it is cheap, and in winter often almost the only green vegetable available

In normal peace conditions, the results of vitamin deficiency are most often seen in infancy In rare cases they may be seen in older children and in adults when there is extreme poverty, and still less frequently in those suffering from chronic disease, or in very delicate children whose diet for a long period has been greatly restricted

If the daily diet contains in reasonable amount unskimmed milk, cereals, potato, green vegetables and fruit, one need not fear a vitamin deficiency While these articles are especially rich in vitamins, nearly all of our common foods contain them

155 West Fifty-eighth Street

CLOSTRIDIUM BOTULINUM

II PRESENCE IN THE HUMAN ALIMENTARY TRACT *

FRED W TANNER, PH D
AND
GAIL M DACK
URBANA, ILL

The importance of *Clostridium botulinum* as a cause of food poisoning, and probably food infection, justifies extensive study of its distribution At frequent intervals it has been reported in the intestinal contents of both apparently healthy and diseased animals and human beings The present paper is a report of a short study on its possible presence in the intestinal tracts of healthy human beings

Van Ermengem [1] isolated the organism from the intestinal tracts in fatal cases of the disease In 1897, however, he could not find it in the intestinal contents of fish, or in cow or horse manure, or duck excreta Burke [2] found the spores of this organism in insect droppings and manure from a hog which had recovered from botulism three months before Dickson [3] examined the intestinal contents of 250 hogs without finding the organism in a single instance Kempner and Pollack [4] isolated it in 1897 from the intestinal contents of a hog We [5] found it in three specimens of hog feces and one sample of sewage Graham and Barger [6] found *Clostridium botulinum,* Type A, in one specimen of feces and five specimens of urine from

* From the Department of Bacteriology, University of Illinois

1 Van Ermengem Centralbl f Bakteriol Part I **19** 442 1895
2 Burke G S J Bacteriol **4**: 541 553 (Sept) 1919
3 Dickson E C quoted by Burke (Footnote 2)
4 Kempner and Pollack Deutsch med Wchnschr **23** 505 1897
5 Tanner, F W and Dack Gail M J Infect Dis to be published
6 Graham and Barger Univ Bull **19**, No 7 1921

widely separated spontaneous cases of poliomyelitis in Illinois Graham and Schwarze [7] isolated the organism from the intestinal contents of chickens that had died of limber neck

In order to determine whether the spores of the organism might be present in the intestinal tract of the healthy human being samples of stool were collected from ten different persons

TECHNIC

Ten samples of feces from apparently healthy persons were brought to the laboratory on sterile swabs The samples were broken up in sterile physiologic sodium chlorid solution and transferred to sterile corked test tubes These were shaken vigorously for about ten minutes on the shaking machine in order to secure a homogeneous preparation The tubes were then put into a constant temperature bath at 80 C for thirty minutes in order to destroy the vegetative cells which were present Various qualitative dilutions were made and the material was plated out in dextrose agar The plates were made anaerobic by Dick's method After incubation at 37 C, the plates were carefully examined for colonies like those of *Clostridium botulinum* Suspicious colonies were transferred to sterile tubes of sheep brain medium which were incubated at 37 C after being made anaerobic with sterile paraffin The sheep brain medium cultures which gave the characteristics of growth generally secured in this medium were tested serologically for the presence of the botulinus toxin One cubic centimeter portions were fed to guinea-pigs by mouth Those animals which died with the usual symptoms were examined postmortem and new cultures in brain medium were inoculated with material from the brain of the guinea-pigs It has been found that the organism may be isolated from the brains of guinea-pigs which have died with a typical case of botulism This culture was then carefully purified and typed against antitoxin kindly supplied by Prof Charles Krumwiede

RESULTS

Two of the ten specimens of feces from apparently healthy human beings were found to contain the organism Five others gave very strong evidence of its presence The cultures from these five samples, however, formed weaker toxins, and death in the guinea-pigs was delayed for as long as twenty days in one instance The guinea-pigs, however, died with the usual symptoms at the end of that time This delayed death has also been mentioned by others Since these strains reacted so sluggishly to the usual tests, they were not regarded as absolutely positive, although we feel that they were *Clostridium botulinum* An analogy may exist between the delayed symptoms in guinea-pigs and those in human beings It is possible that some of the severe gastro-intestinal disturbances often occurring in isolated cases and in groups may have been due to a weak toxin capable of causing symptoms only superficial to those caused by a strong toxin Perhaps the incubation period in some of these cases may be so delayed that the apparently spontaneous symptoms, when they appear, are not connected with the ingestion of a poison-containing food

The significance of these data is perhaps merely suggestive Our results seem to be somewhat confirmed by the more recent contributions on the presence of the organism in the soil Tanner and Dack [8] and Meyer and Geiger [8] have shown that the organism is quite widely distributed in the soil The latter investigators have proposed that certain geographic areas may be more heavily seeded than other areas It would not be unexpected to find the organism on foods which are eaten fresh or which are partially or imperfectly cooked An analogous situation seems to exist in *Clostridium tetani* The work of Nicolaier and others [9] has shown that this organism is abundant in the superficial layers of the soil, and especially in soil which has been cultivated and fertilized The recent work on forage poisoning [10] by a number of investigators also indicates that the organism may be distributed in soil and may thus reach food In the numbers that would get into food its presence is probably not significant Armstrong Story and Scott [11] reported that pigs receiving 120 000 000 spores subcutaneously died in four days, while animals receiving 12,000,000 and 1 200 000 spores remained well Orr [12] has given this subject more elucidation While Orr admits the possibility of toxemia due to the ingestion of detoxicated spores, he regards it as of very rare occurrence, if it ever occurs Thus, it seems that the spores of *Clostridium botulinum* may be present in the intestinal tracts of apparently healthy persons without any untoward symptoms or results

SUMMARY

Two of ten specimens of feces from healthy persons were found to contain *Clostridium botulinum* Five other specimens gave strong evidence of its presence The two strains absolutely identified as Type B strains formed powerful toxins in sheep brain medium

7 Graham R and Schwarze H R J Infect Dis **28** 317 (April) 1921

8 Meyer K. F and Geiger J C. Pub Health Rep **36** 46 (Jan 7) 1921

9 Hiss and Zinsser A Text Book of Bacteriology Ed 4 p 457

10 Graham Brueckner and Pontius Kentucky A Exp Sta Bull 207 1917 Bull 208 Graham and Schwarze Abstr Bacteriol August 1921 Abstr 1547

11 Armstrong Story and Scott Pub Health Rep **34** 2877 (Dec 19) 1919

12 Orr P F J Infect Dis **30** 118 127 (Jan) 1922

1 Borden D L Diaphragmatic Hernia Ann Surg **75** 337 (March) 1922

Clinical Notes, Suggestions, and New Instruments

DIAPHRAGMATIC HERNIA AS A LATE SEQUEL OF WAR WOUND OF THE CHEST

HAROLD E WAXMAN, M D PITTSBURGH

An interesting phase of the case here reported is the fact that diaphragmatic hernia may be confused with appendicitis From a theoretical standpoint it scarcely seems probable that a condition pathologically and anatomically so different from diaphragmatic hernia as acute appendicitis could be confused with the former Yet this did happen, and Borden [1] recently reported a similar mistake although in a widely different and more chronic form of diaphragmatic hernia

REPORT OF CASE

History—J B, a white man aged 28 a city fireman, was admitted to the hospital, Dec 30 1920, complaining of pain in the abdomen December 23 while at a fire, the patient was overcome by smoke He did not remember much of what had happened to him, but was told by companions that his asphyxia was rather profound, and the pulmotor was used Before the accident, to the best of his knowledge, he was in perfect health That evening he began to have a dull pain in the left side of the abdomen just below the ribs The pain radiated upward to the left shoulder The pain was not severe He took no medicines and abstained from food, as part of the after-treatment of the asphyxiation His bowels moved well that day without causing him any pain or other symptoms, and so continued until December 26, three days after the accident The dull pain in the left hypochondrium

persisted December 27, he began to have pain of a dull nature in the right iliac fossa The onset of this was followed by vomiting Since then he had vomited at all attempts at eating The vomited material usually consisted of what he had eaten shortly before He had not had a bowel movement since December 26, and numerous enemas proved unsuccessful December 30, he developed acute, agonizing pain in the right iliac fossa, the pain on the left side having subsided Realizing that his condition was not due altogether to the asphyxiation, he again called his physician, who advised immediate removal to the hospital

When admitted, he complained only of a sharp, colicky pain in the lower right abdomen and of vomiting whatever food or drink he took He had not secured a bowel movement for four days in spite of the use of enemas On the morning of admission, hiccup developed and persisted He said that the vomiting was almost always preceded by a long period of nausea, which he relieved voluntarily by forcing the act of vomiting when it did not come spontaneously

The patient said that he had always been active and athletically inclined, enjoying excellent health He had all the usual minor ailments of childhood, but none of the more serious acute infectious fevers In 1918 while in action in France, he was wounded 'just below the heart" by a machine gun bullet He was in a military hospital for several months No exploratory operative treatment was attempted at the time he was shot He apparently made a good recovery, and said that he had been in excellent health since his discharge from the army He had never before had any pain of a nature similar to that which he was now experiencing He had never had a surgical operation of any kind

Examination—On the left side of the chest, in the midclavicular line, in the sixth interspace, was a scar from the entrance of the bullet There was also a scar at the point of exit of the bullet in the left posterior axillary line, in the tenth interspace The heart and lungs were normal The abdomen was flat, with no distention, and was tympanitic to percussion above the umbilicus There was marked tenderness on deep palpation over the entire right iliac fossa, with some rigidity of the right rectus muscle No tenderness was noted elsewhere, and no masses were palpated There were *no hernias, inguinal or femoral* Rectal examination was negative The specific gravity of the urine was 1 030, examination revealed albumin, trace, sugar, negative, indican, trace, casts, none, red blood cells, a few Blood examination revealed leukocytes, 15,000, polymorphonuclears, 77, small mononuclears, 17, large mononuclears, 6

Clinical Course—December 30, the patient's condition was as described in the history A diagnosis of acute intestinal obstruction, with probable location in the right iliac fossa, was made Exploratory laparotomy was urged, but the patient refused his consent The temperature ranged between 99 and 100 F

December 31, a marked changed in the patient's condition was manifest He was restless, and complained of great pain in the right iliac fossa During the twenty-four hours since admission, four irritant enemas had been given These were returned practically as given, uncontaminated with fecal matter The abdomen was distended uniformly There was exquisite tenderness and marked rigidity of the overlying musculature of the right iliac fossa The breath had a fecal odor Operation was accepted The diagnosis was acute appendicitis or intestinal obstruction

Operation and Result—Under ether anesthesia, a right lower rectus incision was made The cecum, ascending colon, transverse colon and terminal ilium were markedly injected and greatly distended The appendix was bulbous, infiltrated, bound down, and surrounded by a small quantity of pus Considerable manipulation and exploration were necessary to locate the obstruction of the intestine accounting for the distention The splenic flexure of the transverse colon was caught in a small hernia of the diaphragm The incision was, of course, in the wrong place to deal effectively with both the appendical condition and the diaphragmatic hernia The patient was in great shock The knuckle of bowel was hastily freed from the opening in the left diaphragm, and the abdomen closed The operation was performed by a member of the visiting staff

The patient did not rally through the night from the shocked condition in which he left the operating table In spite of all restorative and stimulative measures, he died, twelve hours after the operation

COMMENT

To have made a diagnosis of diaphragmatic hernia would have been easy enough had this been a case in which the patient did not present an acute condition of the abdomen, if there had been sufficient eventration of the abdominal contents into the thorax to give physical signs, or if a roentgen ray examination could have been made In this case the optimum in diagnosis would have been acute intestinal obstruction With the presence of pain in the right iliac fossa there seems some justification for having regarded the seat of all trouble in that location Had an incision been made in the upper left quadrant, it might also have been possible to deal secondarily with the appendical condition, but, as is too often the case, in this instance "hindsight seems better than foresight" Undoubtedly, also, operation was too long delayed

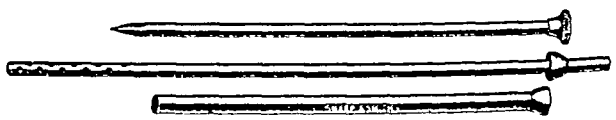
The explanation of the mechanism of production of the hernia may be that, during the violent breathing which the patient undoubtedly employed while overcome by smoke, through greater use of the abdominal muscles in respiration the increase of intra-abdominal tension was sufficient to rupture the scar in the dome of the diaphragm on the left side and force through the splenic flexure The accompanying acute suppurative appendicitis beggars explanation It gave a justification for making the right iliac fossa the location suspected as being also the seat of the acute intestinal obstruction

5819 Forbes Street

A PRACTICAL TROCAR AND CANNULA FOR REMOVING ASCITIC FLUID

WILLIAM W DUKE M D KANSAS CITY, MO

When ascitic fluid is withdrawn from the peritoneal cavity through the cannula ordinarily used for this purpose, the end of the cannula frequently strikes loops of intestine or the omentum before the desired amount of fluid has been removed This not only interferes with further withdrawal of fluid, but causes pain and anxiety in the patient The



Trocar and cannula for removing ascitic fluid at top trocar, in center inner cannula at bottom outer cannula

end of the cannula can be freed from the intestine or omentum by manipulation, and additional amounts of fluid can be withdrawn Such additional amounts, however, are usually small, and after manipulation has been attempted several times, further effort at complete drainage has to be abandoned The result is that a considerable amount of ascitic fluid may be left in the peritoneal cavity This may drain through the wound made by the cannula for one or several days, and cause the patient much annoyance This disadvantage can be overcome by the use of the double cannula shown in the accompanying illustration

The outer cannula consists of a metal tube 9 5 cm in length with a bore 4 mm in diameter This is fitted with an ordinary trocar The trocar and outer cannula can be introduced into the peritoneal cavity in the usual manner, the trocar can be withdrawn, and in its place the inner cannula with the blunt, perforated end can be introduced The inner cannula is 13 5 cm in length, with a bore 3 5 mm in diameter This cannula, on account of its length and blunt end, can easily be introduced deep into the pelvis without causing

pain or anxiety in the patient The flow of fluid cannot be obstructed easily by omentum or loops of intestine, and the result is that the peritoneal cavity can be drained almost dry without difficulty The advantages of this cannula would appear to offset its only disadvantage, namely, slightly increased cost

Waldheim Building

New and Nonofficial Remedies

YEAST PREPARATIONS

Report of the Council on Pharmacy and Chemistry

At its 1922 meeting, the Council directed that a general article, giving the present status in medicine of yeast and yeast preparations, be prepared A committee was appointed for the purpose This committee submitted to the Council the report which appears below, with the recommendation that its publication in THE JOURNAL and its subsequent inclusion in N N R be authorized The Council adopted the report of the committee, and, accordingly, the article, Yeast Preparations, appears below W A PUCKNER, Secretary

Yeast and preparations from it have long been used both externally and internally in medicine Yeast, as commonly understood, is the ordinary brewer's or baker's yeast, consisting of the minute unicellular organism *Saccharomyces cerevisiae* These cells have long been characterized by their power to convert certain sugars into products of fermentation, a reaction in which enzymes present in the yeast are concerned

So-called dried yeast is usually obtained by filtering off the yeast cells grown on extracts of malted grains, they are completely or partially dried and may, or may not contain a considerable admixture of starchy substance Lately, preparations of relatively uncontaminated dried yeast have been marketed Some of the dried yeast preparations are intended to retain their fermentative power In others this has been destroyed by the process of desiccation The so-called compressed yeast sold in freshly prepared form, usually with some admixture of a starchy substance to give it a suitable texture, will retain its fermentative activity for several days when kept at a low temperature To what extent other micro-organisms are likely to contaminate the commercial yeast preparations is not generally known

Actions and Uses—Since fermenting liquids, if concentrated enough, have been assumed to have a bactericidal action yeast has been proposed for use as a bactericide in the treatment of infections of the superficial tissues Its application for this purpose has, however, been practically abandoned, although there are traditional accounts as to the healing properties of fresh yeast applied to open wounds As yeast is one of the richest sources of vitamin B, which has recently come into prominence as a hitherto unrecognized food component essential to nutritive well being and widely distributed in common foods, yeast and preparations derived therefrom have been widely extolled of late as sources of this vitamin whenever there may be indications for its therapeutic use The latter are still so indefinite, aside from rather exceptional instances, such as beriberi, and the opportunities to obtain vitamin B through the customary foods entering into the dietary of man are so abundant that the special demand for the yeast vitamin seems to be limited relatively at the present time At all events, the alleged curative or tonic value of special vitamin B bearing products has been emphasized through widespread advertising to an extent unjustified by available evidence The beneficial effect of products containing vitamin B on animals subsisting on a diet deprived of this food factor is truly remarkable, but this fact attested by laboratory observations, should not be interpreted to mean that there is a widespread avitaminosis in this country or that the need for vitamin, other than in exceptional cases, cannot readily be supplied through simple dietary measures The therapeutic aspects of the vitamin problem are still in the experimental stage

The ingestion of yeast in liberal portions is known to produce a laxative effect In some cases particularly in young children such use of yeast has been followed by intestinal distention, doubtless attributable to fermentative gas production by the surviving yeast cells There is, however a preponderance of evidence regarding the advantageous use of yeast as a mild laxative Aside from the objectionable possibility just referred to, there are no serious contraindications Whether the laxative action of yeast is due to the survival of the living cells and some product of their reaction in the intestine or to a chemical component of yeast which may also be present in dead cells is not clear at present Yeast has often been recommended for internal administration because of its supposed beneficial effects on furuncles, acne, etc Its adherents assert that it is almost a specific Many, if not most, clinicians doubt this remarkable effect which may after all, be expected from any anticonstipation agent Whether yeast or its products can provoke a leukocytosis likewise remains undemonstrated Many of the conditions for which yeast and yeast preparations have been recommended therapeutically are so variable in their clinical course and so likely to show improvement without special treatment that the elaborate claims made in regard to yeast therapy for somewhat indefinite disorders must be largely discounted It is not clear to what extent, if at all live cultures of yeast may be used to change the intestinal flora, if, indeed such a reaction becomes desirable in many of the conditions for which yeast is commonly used

Concentrated liquid extracts of yeast (which are rich in vitamin B) have long been used as substitutes for meat extracts in making bouillons and soup stocks, and it is asserted that meat extract is sometimes adulterated with yeast Yeast vitamin concentrates have been prepared from extracts of yeast by a variety of methods

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THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

ANTI-ANTHRAX SERUM (See New and Nonofficial Remedies, 1922, p 284)

Parke Davis & Company, Detroit

Anti Anthrax Serum Marketed in syringes containing 50 Cc. (*Bio 45*) Initial dose of from 50 to 100 Cc injected intravenously should be followed by further injection in six or more hours It is well to test the sensitization of the patient to horse serum prior to the first injection by means of the cutaneous test which will require about one half hour The drop of serum required for this test can be obtained directly from the syringe container of Anti Anthrax Serum

ANTIMENINGOCOCCUS SERUM (See New and Nonofficial Remedies, 1922 p 286)

Parke Davis & Company, Detroit

Antimeningococcic Serum Marketed in packages of two syringes with flexible connection gravity tube and needle with stylet (*Bio 170*) each containing 15 Cc also in packages of one syringe with needle and long flexible tube suitable for intravenous injection either by pressure or gravity method (*Bio 172*) each containing 50 Cc

Dosage—From 50 to 150 Cc intravenously from 15 to 30 Cc. intraspinally

DIPHTHERIA ANTITOXIN-TOXIN MIXTURE (See New and Nonofficial Remedies, 1922, p 282)

Parke, Davis & Company, Detroit

Diphtheria Toxin Antitoxin Mixture—Diphtheria Prophylactic Each cubic centimeter of the mixture represents a single human dose corresponding to the requirements of the Public Health Service Marketed in packages of 3 bulbs each containing 1 Cc (*Bio 60*) representing one immunizing treatment also in vials containing 20 Cc (*Bio 65*)

TUBERCULIN DENYS (See New and Nonofficial Remedies 1922 p 296)

Parke, Davis and Company Detroit

Tuberculin B F (Bo inr)—Made in the same manner as tuberculin D nys (Human) except that the bovine type of tubercle bacillus is used Marketed in packages of six 1 Cc sealed glass tubes

Borcherdt's Malt Extract (Plain) (See New and Nonofficial Remedies, 1922, p 176)

Borcherdt s Malt Cod Liver Oil and Prosphorus Each 100 Cc. contains phosphorus, 0 009 Gm (1/25 grain per fluidounce), cod liver oil 25 Cc and Borcherdt s malt extract (plain) 75 Cc.

Dosage—From 8 to 15 Cc (2 to 4 fluidrachms) three times a day after meals

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SATURDAY, JULY 8, 1922

FEBRILE TEMPERATURE

The current conception of fever involves reactions which consist in an alteration of the body temperature, together with changes in the mechanism which controls this temperature Fever can be induced by placing the body in an environment so warm and moist that heat cannot be lost by the usual devices of radiation, conduction and evaporation In such a predicament there is an obvious failure of heat elimination In persons suffering from ichthyosis hystrix involving an almost complete loss of function of the sweat glands,[1] the body temperature can be varied by altering the temperature of the surroundings Considerations such as these have been responsible for the view that a prominent factor in the genesis of fever is the failure of the mechanisms ordinarily responsible for the removal of heat from the body On this hypothesis the increment of heat might be merely an exaggeration of that seen in healthy persons after exercise, but with an imperfect elimination of the heat thus set free

Water is of so much importance in heat loss by vaporization that one naturally thinks of the rise in temperature as possibly dependent on a failure or inability of the body to "mobilize its water reserve" As stated in a recent article,[2] the ability of the body to utilize water in heat elimination is of the greatest importance in the regulation of temperature Because of its high specific heat and fluid character, it is capable of absorbing large amounts of heat from the cells and of distributing it to the surface of the body, where it may be eliminated The dry skin and concentrated urine of acute fevers has often given rise to the belief that the mechanism of heat loss is disturbed

The latest studies of Du Bois [3] and his colleagues, in a variety of infectious fevers, lend no support to the theory of inability of the body in such conditions to mobilize its water reserve for the elimination of heat Their results show that the heat lost in the vaporization of water from the skin and lungs bears a fairly constant relationship to the total heat elimination In cases of erysipelas, for example, the heat lost in the vaporization of water constitutes from 23 6 to 33 4 per cent of the total heat elimination During rising, constant and falling temperatures, the percentage of heat eliminated in the vaporization of water was greater than in normal persons, hence the conclusion that fever should not be attributed to failure in the function of water elimination

The careful earlier calorimetric investigations of typhoid, tuberculosis and malaria are now supplemented by additional evidence from other febrile states to show that rise in body temperature is accompanied by increased heat production, and that the increase corresponds to the degree of fever Apparently the patient with fever responds to bodily changes by a rise in temperature in a manner which resembles closely the chemical reactions in the test tube suspended in a water bath According to Barr, Cecil and Du Bois, the increased heat production follows van t Hoff's law, which may be thus stated "With a rise in temperature of 10 C, the velocity of chemical reactions increases between two and three times" This means an increase of from 30 to 60 per cent for a rise in body temperature from 37 C to 40 C It is important to realize that increment in body temperature may of itself thus "speed up" metabolism

1 Linser and Schmid Deutsch Arch f klin Med **79** 514 1904 abstr J A M A **42** 1526 (June 4) 1904

2 Barr D P Cecil R L and Du Bois E F Clinical Calorimetry XXXII Temperature Regulation After the Intravenous Injection of Proteose and Typhoid Vaccine Arch Int Med **29** 608 (May) 1922

3 Coleman Warren Barr D P and Du Bois E F Clinical Calorimetry XXX Metabolism in Erysipelas Arch Int Med **29** 567 (May) 1922 Barr D P Cecil R L and Du Bois E F Footno e 2

THE GOETSCH TEST IN HEALTHY PERSONS

Medical practice is enriched and mankind benefited by any procedure, prophylactic, diagnostic or therapeutic, by which the problems of disease can be more accurately approached When Sir John Floyer adapted the watch for the counting of the pulse, he made the civilized world his debtor The application of chemistry in the test for sugar in the urine has proved to be of enormous help to the physician The simplified technic for the estimation of basal metabolism has opened new possibilities in clinical medicine Human nature is not always easily swayed by interest in the novelties of science, but, when it is moved, the pendulum of enthusiasm is often more than likely to swerve too far in one direction before it regains the normal swing One need but read the history of any new test, new instrumental procedure, new apparatus or new drug, to find abundant illustrations of this dictum

The epinephrin test introduced by Goetsch for the detection of hypersensitiveness in hyperthyroidism [1] seems to be no exception to the common experience referred to It depends in principle on the theory that,

1 A good description of the procedure is given by Wearn J T and Sturgis C C Effects of Injection of Epinephrin in Soldiers with Irritable Heart Arch Int Med **24** 247 (Sept) 1919

in an organism in which there is an overabundance of thyroid secretion, the sympathetic nervous system is sensitized to the action of epinephrin Peabody and his collaborators [2] at the Peter Bent Brigham Hospital, Boston, have already ascertained that, although hypersensitiveness to epinephrin as measured by the Goetsch test is found in many persons showing the clinical picture of hyperthyroidism and an increased basal metabolism, yet it is not always present under these conditions On the other hand, the Goetsch test may show a positive response in persons who have no other indications of hyperthyroidism

Significant evidence of this has lately been offered by Van Wagenen,[3] who conducted Goetsch tests on a group of students in the Department of Physical Education at Cornell University He states that "a more physically fit, more symptomless group could not have been desired" Yet in the fifty persons comprising it there were ten positive reactions, or 20 per cent, judged by the characteristic changes in blood pressure, pulse rate, general symptoms and local reactions attending the intramuscular injection of the conventional test dose of epinephrin hydrochlorid Such facts raise doubt, to say the least, as to the exclusive diagnostic value of a test for hyperthyroidism in "borderline cases" in which, in the absence of observable symptoms of psychoneurosis, neurasthenia and hysteria, so large a proportion of healthy persons respond in what might be designated as a positive way

REJUVENATION BY TESTICULAR TRANSPLANTATION AND OCCLUSION OF THE SEMINAL DUCTS

The quest through the ages for a mystic agent which shall revive the faded youth of the aged has recently been rewarded—at least so the newspapers allege—by the discovery of the fountain of youth Indeed, two such fountains have been acclaimed from different sources Neither of the methods proposed, it is true, promises more than partial rejuvenation of the old Neither offers, for example, to grow natural teeth to replace artificial dentures, or to garnish a bald pate with a luxuriant thatch Yet, if a method will renew sexual vigor—and this is the alluring promise—full many a Faust will eagerly barter his worldly goods for drafts from the fountain

The more sensational of the two methods of rejuvenation now in the limelight is the transplantation into the old man of testicular substance removed from young men, monkeys, goats or whatever the market affords Each of these sources of material is guaranteed, by somebody, to rejuvenate A fundamental error in this scheme is the assumption that vigor in general and erectile power in particular are measured solely by some testicular internal secretion, and hence that loss of such power can be remedied by a fresh supply of testicular substance Physicians know that destructive disease of the thyroid, of the anterior pituitary or of the suprarenal cortex entails loss of sexual power as surely as does castration, that copulative vigor is apparently a composite, possible only when a chain of endocrine glands, including at least those just named, furnish their normal products to the blood, and that under-function of any of these impairs vigor in general, and virility in particular Removal of the entire thyroid, for example, causes sexual impotence, relieved not by transplanting testes but by feeding thyroid tissue Since a chain is no stronger than its weakest link, and since in old age all the links of the endocrine chain are weaker than in youth, it is difficult to imagine that the implantation of youthful testicular substance could rejuvenate old men, any more than that the insertion of a new link could strengthen a worn-out chain The legitimate subject for testicular implantation, by this reasoning, is the otherwise normal young man whose testes have been destroyed by disease or injury In some such cases, however, this attempt has failed utterly, but in a few other cases, disinterested physicians have attested an improvement, general and sexual, following the transplantation of human tissue In no instance, so far as we know, has an alleged rejuvenation of an old man been so attested

A second assumption in this scheme of rejuvenation is that transplanted gonad substance, of whatever origin, continues to function in its new environment Yet in many instances human tissue, testicular and ovarian, removed months after such transplantation, has been found to have been treated as a foreign body, disintegrated and removed by the tissues of the host The clinical results of gonad transplantation, as reported by the operators themselves, range from flat failure to marvelous success, thus, the gonad of the goat is said to have cured or mitigated not only sexual impotence but also a score of chronic ailments of diverse etiology and pathology The veteran Tuffier whose surgical utterances have long commanded respect, working in a Paris hospital with the precision of a laboratory investigator, implanted ovarian tissue freshly removed from young women into each of twenty women who had passed the menopause, in not one of these was there a return of menstruation or other evidence of rejuvenation Most of his 230 operations were autotransplantations, removal of ovaries from the pelvis to other locations in the same woman The results illumine the subject under discussion, for, while menstruation was reestablished in a majority of the women under 30, in only one of fifty-six women over 40 did this flow reappear after autografting Moreover, even in the youngest women, from four to ten months elapsed after autografting before men-

2 Peabody F W Sturgis, C C Tompkins E M, and Wearn J T Epinephrin Hypersensitiveness and Its Relation to Hyperthyroidism Am J M Sc 161 508 (April) 1921

3 Van Wagenen W P Some Observations on the Epinephrin Hydrochloride Test (Goetsch Test) in a Group of Normal Individuals J Indust Hyg 3 343 (March) 1922

struation was reestablished, and, when it did appear, it was irregular and seldom continued more than three years His verdict is that the therapeutic result of autografting of ovaries is transient, that of grafting from one woman to another is nil It is difficult to reconcile such facts with the copulative frenzy alleged to occur in old men a few days after implantation of human or other testes, except through mental suggestion No work on testis transplantation so convincing as Tuffier's ovarian transplants has come to our attention

A second widely advertised method of rejuvenation emanates from a Vienna physiologist, Steinach This scheme likewise measures vitality solely in terms of testicular secretion, but claims to increase such secretion in an old man, not vicariously, through transplanted gonads, but directly, by speeding up his own production The blood supply of the testis is normally divided between the spermatic tubules, which provide sperms for procreation, and the interstitial groups of epithelial cells called Leydig's glands, which are supposed to elaborate the internal secretion Steinach assumes that, by diminishing the production of sperms, there must result an increased blood supply to the interstitial glands and a corresponding increase of internal secretion, whereupon the old man is young again A decrease in sperm production is known to follow gradually the occlusion of the seminal duct, hence the Steinach method is simply vasectomy or its equivalent Some physicians harbor the idea that Steinach devised a method or operation disclosing a new principle, the only novelty was the occlusion of the seminal duct by dividing the vasa deferentia leading from testis to epididymis instead of the vas itself and the motive for this was the hope of sparing the artery of the vas deferens, the smallest of the vessels supplying the testis, which is necessarily ligated in vasectomy But since Steinach asserts that identical results followed simple vasectomy in senile rats, and since the Vienna surgeon who applies the theory to human subjects abandoned the so-called "Steinach operation," the Steinach thesis is reduced to simply this Occlusion of both seminal ducts rejuvenates an old man Although the flaws in this argument are glaring and numerous, their enumeration is superfluous, because there is overwhelming clinical evidence that occlusion of the seminal ducts does not rejuvenate an old man A generation ago, when prostatectomy was more dangerous to life than it now is, vasectomy was widely practiced for the mitigation of the evils entailed by prostatic obstruction, leaders in surgery, including Harrison in Liverpool and Rovsing in Copenhagen, reported the results in hundreds of cases of bilateral vasectomy for this purpose in old men, in not one was rejuvenation achieved In a recent article, a Steinach follower, apparently realizing that the latter's scheme for rejuvenation died before it was born, naively explains that the old men vasectomized a generation ago did not secure rejuvenation because they were not expecting it! Apparently, then, occlusion of the seminal ducts increases testicular secretion only when the old man is convinced in advance that he will be rejuvenated It should be possible to induce such conviction without resorting to surgery

Current Comment

MEDICAL ETHICS

One factor distinguishing medical from other professional ethics is that medical ethics relates largely to acts immediately affecting the lives and health of human beings, and not to merely abstract principles This distinction has been recognized, since the days of Hammurabi, in all statements of principles, or so-called codes of medical ethics It is interesting to note too, the permanence of the statements of ethical principles governing specifically the acts of physicians, as formally approved by the American Medical Association, since the adoption of the "Code of Ethics," at the first annual session of the Association, in 1847 The code then adopted continued in effect until 1903, when, at the New Orleans session, it was superseded by a new statement there adopted, and the title changed from "Code" to "Principles" of medical ethics, but even then only minor modifications were made, the most important being the omission of the chapter defining the relationship which the public and the patient should hold to the practitioner of medicine In 1912, the statement of the "Principles of Ethics" was revised, but the changes were hardly more than changes in phraseology New conditions, however, have recently developed in the practice of medicine, and group and institutional practice have loomed up as elements to be reckoned with Many physicians, it is to be feared, have quite unconsciously tolerated on the part of groups and institutions with which they are connected acts which they would not for a moment have considered if they had felt that they individually were responsible for them It has always been recognized, for instance, that "solicitation of patients" is unprofessional and that a physician cannot ethically engage in such solicitation Justice and fairness demand that the practice be not indulged in by physicians through groups or institutions with which they may be connected, any more than it would be indulged in by such physicians acting in their individual capacities These considerations led the House of Delegates at the last annual session in St Louis to incorporate in the "Principles of Ethics" the following, so that there might be no doubt as to the duty of groups and institutions or of the physicians connected with them

> SEC 4—Solicitation of patients by physicians as individuals or collectively in groups by whatsoever name these be called or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated

As may be noted, it is recognized that "institutions" which provide means for treating the sick and which have certain physical attributes which can properly be

announced may call attention to these facilities But groups of physicians associated for any reason, in group clinics or other institutions, should conform to the restrictions governing the individual physician For professional and quasiprofessional acts committed by such groups or institutions, the physicians connected therewith must hold themselves accountable

A SCHOLASTIC VIEW OF BOTULISM

A critical attitude of mind toward generally received opinions is perhaps a desirable character in an adult, zeal for propagation of the faith—one's own faith—is also often considered commendable But a combination of the two qualities sometimes produces results that make the judicious grieve An editorial comment on 'More 'Botulism'" in a recent number of the *Medical Officer*, London (June 10), is an astonishing example of the effects of mental prejudice In reviewing an article[1] that appeared in THE JOURNAL on an outbreak of botulism in Cambridge, Idaho, the writer of the editorial quotes the list of foods eaten at the fatal meal, and goes on in somewhat questionable taste "We are not told if the water was home-canned Anyway, the birthday party, although no doubt an immediate success, was tragic enough in the conclusion" The concluding paragraph of the editorial reveals an imperviousness to scientific evidence which is so extreme as to be diverting

> But the diagnosis of 'botulism" in these days does not cut much ice We are so familiar with the 'trailers" that follow and the "scouts" that precede our influenza epidemics with all the symptoms of 'sausage poisoning" that we are chary of accepting that unconvincing and unaerobic bacillus which Van Ezmergen [Van Ermengem is doubtless meant] "discovered" twenty odd years ago It is so much more probable and likely that all the reported examples of so called botulism were case-to-case, and not food infection, that they were examples of stupor, of lethargy, of polio-enceplado-myelitis of encephalitis lethargica—call them what you will At any rate in this instance we feel that there is some possibility of excusing the home canned food, nor is this the first time that epidemiologists have been nauseated by the insistence by avid writers on their discovery of new and rare diseases

The view so confidently and naively expressed in this paragraph is held by a small but scriptorially active group in England This is not the place for a critical discussion of the somewhat tenuous hypothesis that would attribute influenza, epidemic encephalitis, botulism and poliomyelitis to a single 'epidemic constitution" But we can at least point out that the airy dismissal of botulism as a figment of the imagination has never been preceded by any serious critical discussion of the numerous comprehensive investigations of botulism carried out in this country during the last decade Before such immature views as those expressed in the *Medical Officer* can receive anything more than indifferent and amused attention, they must be based on something more substantial than innuendo and scholastic word-juggling The grotesque misconceptions about botulism shown by the writer of the editorial cited, indeed, the sheer ignorance of epidemiologic and bacteriologic evidence, do not encourage much confidence in the speculations that are responsible for the attempt to deny botulism a place in the list of specific affections Such views as expressed are all the more reprehensible, appearing, as they do, in a publication devoted to the enlightenment and interests of public health officials

1 Whiteman R T, and Wilkinson, E A Outbreak of Botulism at Cambridge Idaho J A M A 78 1278 (April 29) 1922

Association News

BUREAU OF LEGAL MEDICINE AND LEGISLATION

Complying with the request made by the Council on Health and Public Instruction, the House of Delegates of the American Medical Association, at the St Louis Session, authorized the Board of Trustees to take over from the Council its medicolegal and legislative work and to organize a bureau through which such work shall be carried on The Board announces the appointment of Dr William C Woodward as Executive Secretary of the Bureau Dr Woodward's experience in public life, as health commissioner of the District of Columbia and later of Boston, and his legal training have especially fitted him for the position

The functions of the Bureau of Legal Medicine and Legislation are (1) To keep in touch with federal and state legislation relating to medicine and public health, (2) promptly and intelligently to advise interested state associations and component societies concerning medical legislation and, so far as practicable, to cooperate with them in such proper action as they may take, (3) to study the circumstances under which threatened actions for malpractice arise, with a view to devising methods, if possible, of reducing the frequency of such actions, of rendering defense—or compromise, if that be indicated—more equitable and effective, and of procuring relief and redress in actions inaugurated and carried on without probable cause, (4) to study and advise generally with respect to legal and legislative matters of concern to the science of medicine and to the medical profession

The problems which will come up will be many and intricate and their satisfactory solution will depend on proper organization and operation of the Bureau Success will depend also on the whole-hearted support and cooperation of the profession which is earnestly requested in this effort of the Association to benefit its members and the general public

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS, EDUCATION PUBLIC HEALTH ETC)

CALIFORNIA

Revocation of Licenses—It is reported that the state board of medical examiners has revoked the license of Frederick Nathaniel Staples, on a charge that he was guilty of having been party to a criminal abortion, resulting in death——It is also reported that the board revoked the license of Charles E Marsh, a naturopath, on a similar charge

Arrest of Medical Impostor—It is reported that a person using, at different time the names Leslie Hollen Leslie Powell, J Mitchell Palmer and Thomas Holland was arrested recently in Los Angeles, on a charge of passing bogus checks and of having forged names of reputable physicians to prescriptions for narcotics He asserted that he had practiced medicine in New York and Philadelphia He claimed also to have been a major in the army

CONNECTICUT

Personal—Dr Marvin Z Westervelt, who has recently been in charge of the employee health service of the Winchester Arms Company, New Haven, has been appointed superintendent of the Staten Island Hospital, Tompkinsville

N Y—Dr Thomas F O'Loughlin has been appointed health officer of Vernon to fill out the unexpired term of Dr Wright B Bean, who resigned recently

Yale Medical Alumni Association—At the annual meeting of the association at New Haven, June 19, it was voted to change the name of the organization to "The Association of Yale Alumni in Medicine," and to admit all Yale physicians whether graduates of the Yale Medical School or other departments of the university It was announced that the class of 1922 has agreed to contribute $3,000 to the school in ten annual instalments of $300, the money to be used as loans to worthy students This will be known as the "Loan Scholarship Fund, Class of 1922" The following officers were elected president, Dr Charles E Farr, New York chairman of the executive committee, Dr Herbert K Thoms, New Haven, and secretary-treasurer, Dr Simon B Kleiner, New Haven

DELAWARE

Medical Examiners Appointed—Governor Denney has reappointed Drs Presley S Downs, Dover, Henry W Briggs Wilmington Edwin S Anderson, Dover, and Abram E Frantz, Wilmington, as members of the state board of medical examiners

DISTRICT OF COLUMBIA

Child Health Demonstrations—The Commonwealth Fund will finance a child health program in three typical cities for a period of five years The general qualifications of the first city to be selected are that it shall be from 15,000 to 25 000 in population, with an infant mortality of approximately 100 per thousand live births, or greater Announcement of this action was made, June 29, by Courtenay Dinwiddie, executive secretary of the Child Health Committee for the Supervision of Three Child Health Demonstrations, Washington The program will comprise safeguarding the health of the expectant mother, laying a good health foundation for children in the early sensitive and formative period of their growth, and health supervision and the formation of the essential health habits in schoolchildren The responsibility for carrying out this comprehensive child health program is placed on the American Child Hygiene Association and the Child Health Organization of America A joint committee has been formed that will have charge of all general policies, consisting of Dr Philip Van Ingen and Dr Richard A Bolt of the American Child Hygiene Association, Dr L Emmett Holt and Miss Jean of the Child Health Organization of America Dr Livingston Farrand and Courtenay Dinwiddie of the National Child Health Council, Dr Donald B Armstrong, of the National Health Council, and Mr Barry Smith and Miss Quin of the Commonwealth Fund An office will be opened at 532 Seventeenth Street N W, Washington, and active work will begin at once It was decided by the committee at their first meeting that the first city to be assisted will be selected from the upper half of the Mississippi Valley region Two other cities are to be selected in other sections of the country after work has been well started in the first The work will be so developed as to enlist the cooperation of physicians, public health nurses, school nurses and all other persons and agencies interested in health and child welfare in the communities selected

FLORIDA

License Revoked—The Tampa *Tribune* states that the license of Dr Riley C Hammers, former Tampa physician was revoked at a session of the state medical examiners board, June 13 This is the first time that a physician's license has been revoked by the examining officers of Florida it is stated Dr Hammers has served several terms in prison for rape and violation of the Harrison Narcotic Law

GEORGIA

Atlanta Graduate School of Physicians and Surgeons—The formal opening of the Atlanta Graduate School of Physicians and Surgeons will take place in the fall The general offices of the school are located in Grady Hospital In addition to the city hospital, practically every private sanatorium in Atlanta will be affiliated with the graduate school Dr William Perrin Nicolson has accepted the office of dean, and Dr Michael Hoke has accepted the position as president of the faculty Dr Garnett W Quillian is vice dean and Dr Frank L Eskridge is proctor for the faculty The executors of the estate of the late Albert Steiner have definitely agreed to erect two new buildings for the Grady Hospital, one to be a modern outdoor clinic building which will be used exclusively by the visiting staff for the care of white patients, and the other to be devoted exclusively to the study, diagnosis and treatment of cancer The first course offered at the graduate school will be one in orthopedic surgery and following that courses in general and abdominal surgery, gynecology and obstetrics internal medicine, eye, ear, nose and throat pediatrics, dermatology, neurology, urology and oral surgery

ILLINOIS

Child Health Clinic—A medical clinic for physical defects and underweight children was held in Bloomington June 20, by Dr George T Palmer, president of the Illinois Tuberculosis Association, and Dr Robert H Hayes, Chicago

Personal—Dr Willis T Zeigler, Canton, has been elected county physician of Fulton County to succeed Dr Jasper M Adams——Dr Nelson A Lowry, Chicago addressed the final meeting of the Peoria City Medical Society June 15, on the subject of "Paravertebral Anesthesia"——Dr Daniel N Eisendrath has returned to Chicago after a two years' stay abroad

Hospital News—A twenty-five room addition will be erected at the Burlington Hospital——Construction work will begin immediately on the Mary Davier Hospital at La Harpe ——Plans are being revised for the South End Hospital building Chicago which will be erected at a cost of $300 000 ——A new $130 000 building will be erected for Memorial Hospital Harvey, Cook County——A new laboratory will be established at the Galesburg Cottage Hospital

Chicago

Physicians Club Elects—At the annual meeting of the Physicians Club, held July 1, the following officers were elected secretary, Dr Frederick C Test, directors for one year Dr Truman W Brophy, Dr A A Goldsmith Dr A A O'Neill, and director for two years, Dr John E Rhodes Dr Arthur M Corwin and Dr Henry T Byford

Rush Alumni Honor Professor Haines—At the annual banquet of the Alumni Association of Rush Medical College, Prof Walter S Haines was presented with a watch in which was engraved a statement recognizing his fifty years' service in medical teaching At the same time the Alumni Association announced the establishment of a Walter S Haines Fund for the college library the subscriptions to be completed within four years, at which time Professor Haines will have completed fifty years' service in Rush

LOUISIANA

Physician Gives Donation to University—Dr Leon L Solomon New Orleans has announced that he will give the University of Louisville the sum of $500 annually for use in the medical research laboratory of the university This fund will be known as the Solomon Fund

Measure to Aid Records—Senator Doussan's bill providing for a fee of 25 cents to be paid to physicians, midwives and other persons required to issue birth and death certificates passed the Senate, June 19 It was stated by Senator Doussan that the payment of the fee would probably encourage negro midwives in the parishes to report births

Maternity Bill Opposed—After prolonged arguments for and against the measure, the Senate Committee of Health and Quarantine, June 21, reported unfavorably on representative Dymond's maternity bill which provides that Louisiana give its assent to the Sheppard-Towner maternity *bill* Senator E H Robert New Orleans, argued in favor of indefinite postponement of the bill and pointed out that the states of New York, Massachusetts, Maryland and Maine had rejected the bill

MAINE

Physician Fined—It is reported that Dr Alexander C. Hagerthy, for many terms mayor of Ellsworth, was tried in the District Court June 13 charged with illegal possession of twenty cases of whisky Dr Hagerthy was fined $500 and costs and about $15,000 worth of liquor found in the cellar of his residence was confiscated

Maine Medical Association—At the annual meeting of the association held at Portland June 26-28, under the presidency of Dr Addison S Thayer, Portland, the following officers were elected for the ensuing year president, Dr Langdon T Snipe, Bath, president-elect, Dr Charles A

Moulton Hartland, first vice president Dr John W Nichols Farmington, second vice president Dr Walter N Miner, Calais, and secretary-treasurer, Dr Bertram L Bryant Bangor The next meeting will be held at Houlton, June 12-14 1923 Dr Olin West, Chicago, traveling secretary of the American Medical Association, and Dr Channing Frothingham, Boston, gave addresses

MARYLAND

Hess Dispensary Completed—The new medical and orthopedic dispensary in connection with the Hebrew Hospital has been completed and clinics, which will be housed there will be in operation within the next few weeks The dispensary is a gift to the hospital by Morton Samuels and is known as the Hess Dispensary, in memory of Mrs Samuel's parents

Diphtheria Immunization Clinic Opened—The school of hygiene and public health of Johns Hopkins University in cooperation with the department of health of Baltimore city, has opened a diphtheria immunization clinic, which will be conducted during the months of July and August It offers to any physician the privilege of recommending any family in his practice for admission, when immunity produced by toxin-antitoxin can be brought about before the diphtheria season is here

Personal—Dr J H Mason Knox, Jr of Baltimore, has accepted appointment as chief of the state bureau of maternity and child hygiene created at the last session of the legislature under provisions of the Sheppard-Towner Act Dr Knox is now in Europe where he is directing child hygiene work for the American Red Cross with headquarters at Paris He is at present at Riga Esthonia from which place he cabled acceptance to Dr John S Fulton secretary of the state department of health——Dr T Capsar Gilchrist Baltimore sailed on the steamship *La France* for England and will spend the next two months traveling abroad Dr Gilchrist will deliver the annual address before the London Dermatological Society July 13 in London——Dr Richard Follis Baltimore, has sailed for Europe and will spend his time traveling through England and on the continent, returning September 20

MISSOURI

Personal—Dr C H Wallace, St Joseph has been appointed a member of the welfare board by Mayor McIlmich to succeed Dr Daniel Morton, who declined reappointment ——Dr J E Jordan, Columbia, was presented with a gold watch as a token of esteem recently by the Boone County Medical Society Dr Jordan is retiring from practice owing to injuries received in an automobile accident last fall—Dr William P Fischer, Columbia, has been elected secretary of the Boone County Medical Society to succeed Dr Jordan ——Dr J W Boger, Sedalia, has been appointed county health officer of Pettis County—Dr Henry L Wilfner St Louis has resigned from the board of education after nine years of service——Dr Edward S Smith Macon, has been selected one of twenty officers to be sent to Harvard University for a special course in medicine

MONTANA

State Medical Meeting—The annual meeting of the Medical Association of Montana will be held at Great Falls July 12-13, under the presidency of Dr Wyman W Andrus, Miles City Dr Joseph C Bloodgood Baltimore, Dr Ernest M Hammes, St Paul, Dr David S Hillis Chicago, Dr Leonard G Rowntree Rochester, Minn and Dr Dean Lewis Chicago, will be among the visiting physicians who will gives addresses

NEW JERSEY

Medical Society of New Jersey—At the one hundred and fifty-sixth annual session of the society held in Spring Lake June 20-22, under the presidency of Dr Henry G Costill Trenton the following officers were elected for the ensuing year president Dr James Hunter, Jr, Westville vice presidents, Drs Wells P Eagleton, Newark Alexander MacAlister Camden and Archibald Mercer Newark, secretary Dr William J Chandler, South Orange and treasurer, Dr Elias J Marsh, Paterson

Aid for Unwedded Mothers—A conference was held in Trenton recently, under the auspices of the bureau of child hygiene and the state board of health to consider means for extending the work in regard to problems relating to unwedded mothers, including their care and that of their children A plan was proposed to enlist the cooperation of the general public especially the women, so that it may be possible for illegitimate children, of which there are approximately 1,000 a year born in New Jersey, to have a square deal"

NEW YORK

Personal—Dr Haven Emerson has been appointed full-time professor of the department of public health administration at Columbia University, New York, by the board of trustees of the university——Following his retirement from active service at the Harlem Hospital, Dr Irving S Haynes was tendered a complimentary dinner by members of the medical board of the New York Athletic Club, June 8——Dr Alec N Thomson, director of medical activities of the American Social Hygienic Association, New York has been appointed to the staff of the committee on dispensary development of the United Hospital Fund, New York

Camp for Pertussis Patients—The Riverside Convalescent Camp on North Brother Island, for patients suffering from whooping cough, was opened June 26, by the New York City Health Department It will be under the direction of Dr Robert J Wilson, director of hospitals for the department and Dr Thomas Joyce will be in direct charge At the present time, there are about 500 children in the city afflicted with this disease, and very few of the hospitals in the city have provisions for caring for them while they are convalescent In the new camp, there are accommodations for 2 000 children who will be kept there for a period of six weeks or longer without expense to their parents

Change in Compensation Law—The following amendments have been made to the Workmen's Compensation Law, effective July 1 1922

Explanation Matter in *italics* is new matter in parenthesis is old law (to be omitted)

Article 2 Section 13 Treatment and care of injured employees The employer shall promptly provide for an injured employee such medical surgical or other attendance or treatment nurse and hospital service medicine crutches and apparatus *for such period* as the nature of the injury *or the process of recovery may require* (during sixty days after the injury but the commission may where the nature of the injury or the process of recovery requires a longer period of treatment require the same from the employer) If the employer fail to provide the same after request by the injured employee such injured employee may do so at the expense of the employer The employee shall not be entitled to recover any amount expended by him for such treatment or services unless he shall have requested the employer to furnish the same and the employer shall have refused or neglected to do so or unless the nature of the injury required such treatment and services and the employer or his superintendent or foreman having knowledge of such injury shall have neglected to provide the same *nor shall any claim for medical or surgical treatment be valid and enforceable as against such employer unless within twenty days following the first treatment the physician giving such treatment furnish to the employer and the industrial commissioner a report of such injury and treatment on a form prescribed by the industrial commissioner*

New York City

Personal—Dr Harold W Hersey has resigned as head of the New Haven Hospital to take a position on the administrative board of Columbia University and the Presbyterian Hospital——Dr Thomas H Cherry and Dr Julius Auerbach sailed for Europe on the American Liner *Resolute*, June 27 ——Dr and Mrs Russell A Hibbs sailed for Europe on the *Celtic* July 1——Dr and Mrs David Hunter McAlpin Dr Frederic E Sondern and Dr Samuel S Gant sailed for Europe on the *Homeric* of the White Star Line, July 1—— Health Commissioner Dr Royal S Copeland sailed for Europe on the *France* June 28 in order to obtain first hand information as to health and sanitary conditions abroad His ultimate destination is Poland where he will spend several weeks investigating conditions in the typhus-infected district He is representing the city of New York at the International Congress for the Protection of Mothers and Infants held in Paris July 6 to 8

Hospital News—The eleven-story addition to the Broad Street Hospital was formally opened, June 19 The institution has accommodations for 100 patients The Grand Lodge of the State of New York finances the Masonic floor, the seventh floor will be known as the Roosevelt Memorial floor for children and will be financed by William Hamlin Childs Mrs James Barber will finance another floor, which will be known as the Nora Nickle Barber Maternity floor For the maintenance of the hospital every business firm south of Chambers Street will be asked to contribute a stated sum annually Every firm may protect its employees by paying $1 a year per person with a minimum of $25 During the past five weeks, 115 firms, with a total of 15 000 employees have taken out this form of health insurance——The Montefiore Hospital for Chronic Diseases has purchased a plot 50 by 100 feet adjacent to its home on Gun Hill Road

and also acquired a lot, 125 by 100 feet, on the east side of Steuben Avenue. The hospital recently bought five lots adjoining the latter purchase on the north.

OHIO

Hospital News.—A tuberculosis sanatorium will be erected at Cleveland exclusively for Jewish people.——Plans to issue bonds for $300,000 for a new building at the Flower Hospital, Toledo, have been made.

Physician's License Restored.—The license of Dr. Alfonza Aratus of Cincinnati, which was revoked in 1909 in Ohio and in 1917 in Kentucky, was restored in the state of Ohio in December, 1917, according to a recent report.

Ohio Licenses Revoked.—The license of W. H. Blanck, Cleveland, is reported to have been revoked on the ground that he is now serving a term in the penitentiary for committing an alleged abortion.——The certificate of J. D. Clyne of Cleveland, alleged abortionist, has likewise been revoked.——The certificate of M. Lowenthal, Cleveland, was revoked on the ground that he was convicted of violation of the Harrison Narcotic Law, as a result of which he was sentenced to four years in the penitentiary and fined $2,000.——The certificate of Katherine Kolling, a midwife, Cleveland, was revoked on the ground that she was serving a term in the penitentiary for alleged abortion.——The certificate of S. E. Zeigler of Akron was revoked on the ground that he had been convicted of violating the Harrison Narcotic Law.

Personal.—Dr. John M. Withrow, Cincinnati, received the honorary degree of doctor of laws at the eighty-third annual commencement of Miami University, in recognition of his work in the interests of the public schools in Cincinnati.——Dr. Felix T. Revailles of the Ohio Hospital for Epileptics, Gallipolis, was knocked down and badly beaten, and four patients were stabbed, while trying to subdue a patient who ran amuck recently.——Dr. H. H. Goddard has resigned as director of the state bureau of juvenile research, and Dr. Edmund M. Baehr, psychiatrist for the department of welfare, has succeeded him. Dr. Goddard will become professor of abnormal psychology at Ohio State University in the fall.——Dr. Carl L. Mueller, health commissioner of Wapakoneta, has been elected secretary of the newly organized Auglaize County Public Health League.——Dr. Frank D. Phinney, Cincinnati, has been made a citizen of the United States. Dr. Phinney immigrated from Canada in 1895.——Dr. Edgar J. Curtiss has been appointed physician for the Allen County Children's Home, to succeed Dr. Jonathan B. Vail, resigned.

OKLAHOMA

University of Oklahoma.—During the year 1921, improvements were made at the University of Oklahoma Medical School, Norman, in the way of remodeling, at an expense of $6,000,000. An additional building was provided for the University Hospital at a cost of $75,000, which increased the capacity from 176 to 276 beds, and a nurses' home was erected at a cost of $60,000. The legislature provided an appropriation of $20,000 for radium. As the hospital is directly under the management of the school of medicine, all of these improvements add to the facilities of the school.

OREGON

Pacific Northwest Urological Association.—This organization was recently formed, composed of specialists in urology, with Dr. Albert E. MacKay, Portland, president, Dr. Eric W. Boak, Victoria, B. C., vice president, and Dr. William J. Pennock, Spokane, secretary-treasurer.

PENNSYLVANIA

Hospital News.—Reading Hospital has sold its building for $600,000 and a site for $100,000 and $1,000,000 is now available for a new building.——An addition to Mount Sinai Hospital, Philadelphia, doubling the capacity of the institution, was formally opened and dedicated, June 25. Judge Patterson delivered the dedicatory address. A feature of the new addition is an animal experimentation laboratory which is maintained by the Federation of Jewish Charities, for scientific research and investigation in connection with its social welfare organizations. The new houses adjoining the hospital will be purchased in the near future and the hospital will occupy the entire block.

Medical Extension Service.—Establishment in the near future of a state-wide medical extension service as a result of the efforts of leaders in the medical profession, was forecast June 14, at a meeting of the Philadelphia County Medical Society. Dr. George H. Meeker, dean of the graduate medical school of the University of Pennsylvania, is one of the principal sponsors of the plan, according to Dr. James M. Anders, who referred to its possibilities and value in a paper on "Some Deficiencies of Modern Therapeutics." This will enable physicians who, busy with their practices, have not kept in touch with the latest achievements by fellow members of their profession or with discoveries and improved methods in its every branch, to be kept constantly informed through the extension service, which will have branches in practically every hospital of the commonwealth.

Philadelphia

Medical Agent Charged with Graft.—It is reported that after county detectives had listened through a dictaphone for several hours, while Dr. Louis Saltzmann, an agent of the state bureau of medical licensure, bargained with an official of the County Chiropractors Association, he was arrested, June 10. The Council for the Philadelphia County Chiropractors Association complained to the district attorney that Dr. Saltzmann was trying to extort money from the chiropractors by promising not to prosecute them for violation of the medical practice laws. The chiropractors declared that the association has paid Saltzmann $150 a month for several months not to prosecute them. The bureau of medical licensure stated that he had been employed by them as a detective to gather evidence against persons believed to be practicing without a license.

RHODE ISLAND

Rhode Island Medical Society.—At the annual meeting of the society held in Providence June 1, under the presidency of Dr. George S. Mathews, Providence, the following officers were elected for the ensuing year: president, Dr. Frank E. Peckham, Providence; first vice president, Dr. Arthur T. Jones, Providence; second vice president, Dr. William F. Barry, Woonsocket; treasurer, Dr. Winthrop A. Risk, Providence; and secretary, Dr. James W. Leech, Providence.

SOUTH CAROLINA

Public Health Lectures.—In the monthly report of County Health Commissioner Chimene, it is stated that fifteen public health lectures were given during the month of May in Greenville with an estimated number of 1,045 persons in attendance. Three hundred and fifty children were examined, and motion pictures were exhibited at the mills on the subject of prevention of venereal disease.

Personal.—Dr. J. Baxter Haynes, Spartanburg, and Dr. J. S. Matthews, Denmark, have been appointed members of the state board of medical examiners.——Dr. Washington P. Timmerman has been elected president of the Batesburg Board of Trade and of the newly organized Batesburg Medical Society.——Dr. Charles W. Kollock was elected president of the Charleston Tuberculosis Association recently.

TENNESSEE

Orthopedic Clinic.—A new department of the health center of Knoxville was opened June 15, for the treatment of orthopedic cases. Any person in the city suffering from a disease or deformity which may be relieved by orthopedic treatment, and who is unable to pay for the treatment, may secure remedial treatment at the health center.

TEXAS

Hospital News.—The Spohn Hospital of Corpus Christi, which was destroyed by a storm in 1919, has completed its fund for rebuilding on a large and modern plan. Meanwhile, the hospital continues work in a building, with its regular corps of Catholic sisters.——The Ranger City and County Hospital, Ranger, is under construction and will be completed about October of this year. The institution will have a forty-two bed capacity and will be of fireproof construction.

UTAH

New Appointments.—Dr. Clarence C. Jensen, state superintendent of public instruction, Riverton, has been appointed state director of health education to succeed Dr. Ephraim G. Gowans, Salt Lake City, who resigned recently.——Dr. Douglas L. Gamette, Salt Lake City, has been appointed house surgeon at St. Mary's Free Hospital for Children, New York City.

WISCONSIN

University of Wisconsin—Appointment of a committee of the regents and faculty of the University of Wisconsin to consider problems growing out of the proposed construction of the $1,350,000 Wisconsin General Hospital in connection with a four-year medical course of the university has been made This committee will investigate and report to the governor on questions which he wishes answered before authorizing construction

Triple Ownership Plan for Sanatorium.—At a meeting of the tri county sanatorium committee, representing delegates from Fond du Lac Winnebago and Waushara counties, final details of the triple ownership plan for Sunny View Sanatorium, near Oshkosh were agreed on Winnebago is erecting a Hick Memorial Nurses Home near Sunny View and the county has agreed to permit the nurses of the Sunny View Sanatorium to use the nurses' home

CANADA

Hospital News—Plans have been requested for the establishment of a sanatorium, in Ontario, to be erected at a cost of $1,000,000 for the treatment of tuberculous members of the Brotherhood of Railway Trainmen——At a recent meeting of the Kiwanis Club, in Quebec, two huts were presented to Laval Hospital for the use of tuberculous children during the summer months Premier Taschereau accepted the huts on behalf of the hospital

PHILIPPINE ISLANDS

Philippine Islands Medical Association—At the annual meeting of the association held in Manila under the presidency of Dr Baldomero Roxas y Luz, the following officers were elected for the ensuing year president, Dr Harry H Stemmetz, first vice president, Dr Aristeo R Ubaldo, second vice president Dr Daniel de la Paz councilor for five years, Dr Vicente de Jesus De Zabala, and secretary-treasurer, Dr Isabelo Concepcion

GENERAL

Russians Honor American—A delegation of sixty, representing the various Russian organizations in Greater New York met the body of Harold F Blandy, the first American relief worker to die in Russia from typhus, when it arrived on the *Poloma* June 23, from Libau

American Psychiatric Association—At the annual meeting of the association held in Quebec Canada June 6-9 the following officers were elected for the ensuing year president Dr Harry W Mitchell, Warren Pa , vice president, Dr Thomas W Salmon New York and secretary treasurer, Dr Clarence Floyd Haviland, Albany, N Y

American Neurological Association—The American Neurological Association at the annual meeting at Washington D C, elected Dr Harvey Cushing Boston president of the society Other officers elected were Drs Herman H Hoppe Cincinnati, and Charles S Potts, Philadelphia, vice presidents, and Dr Frederick Tilney New York secretary-treasurer

American Urological Association—At the annual meeting of the association held at Atlantic City May 26 28 the following officers were elected for the ensuing year president, Dr Henry L Sanford, Cleveland vice president, Dr James A Gardner Buffalo secretary, Dr Homer G Hamer Indianapolis and treasurer, Dr James B Cross Buffalo The next annual meeting will be held at Rochester, Minn

Report of Infant Mortality—The American Child Hygiene Association has published its third annual report of infant mortality in cities of over 10 000 population in Continental United States Data were sought only from cities in the death registration area and of these, 573, covering 94 4 per cent of the population, are included in the report A remarkable reduction in infant mortality throughout the country is shown In cities of over 250 000 population the infant mortality rate dropped from 89 0 in 1920 to 75 3 in 1921 The rate in cities with a population between 10 000 and 25 000 dropped from 93 8 in 1920 to 82 3 in 1921 The rate for all cities in the area dropped from 91 5 to 77 9 Of the cities included in the report having more than 250 000 people Portland Ore San Francisco and Seattle had the lowest infant mortality rate Pittsburgh, Kansas City, Mo, and Buffalo had the highest rates

National Health Council Issues Report.—The U S Bureau of Animal Industry is concerned chiefly with the welfare of animals Much of the work of this bureau however relates to human health In order to present a brief outline of the activities of the bureau, the National Health Council has issued a mimeographed report setting forth the legal authority, history and development of the bureau, its organization, personnel and appropriations, and its cooperation with other agencies It is the eighth in a series concerning the health activities of the United States government which has been issued by the council It is planned in the near future to combine all of these reports in a single printed pamphlet thus offering for the first time correlated and accurate information concerning the public health work of the United States government Copies of the report on the Bureau of Animal Industry, or of any of the other reports, may be obtained without charge from the Washington office of the council, Seventeenth and D streets N W, Washington, D C

Nursing Education Program—A program of nursing education that seems to have the unanimous support of the physicians, nurses and public has been effected recently For three years, a committee has been studying the problem, which began with the question of the proper training of public health nurses The personnel of this committee consisted of Dr C E Winslow professor of public health, Yale University Medical School, New Haven, Dr Welch, Johns Hopkins University Baltimore, Dr Edsall of Harvard, Boston, President Farrand of Cornell, Ithaca, Commissioner Biggs, Dr L Emmett Holt and Dr Conner New York and others Unanimous recommendations urge three grades of nursing service (1) the trained registered nurse for the care of the acutely ill the present training course to be reduced 20 per cent in length (that is, to two years and four months), but with such improvement as not to lower present standards (2) the public health nurse the supervisory nurse and the teacher in schools of nursing, who shall receive specialized graduate training beyond the standard course, and (3) the subsidiary nursing worker, who shall be trained in a course of eight or nine months and be licensed as a nursing aid' or nursing attendant' for the care of minor and chronic illness and convalescence Thus, it is proposed to maintain the present R N standards, and at the same time to give further protection to the public through standardizing the subsidiary type of nurses under a description that will not be distasteful

Bequests and Donations—The following bequests and donations have recently been announced

Children s Free Hospital Fund Wisconsin $128 962 as final payment of the $150 000 pledge by the Ferdinand Schleisinger estate

Youngstown Hospital Association Youngstown Ohio $100 000 for a maternity ward to be known as the Grace Todd Arrel Maternity Ward Trust Fund by the will of Mrs Grace Todd Arrel

Madison Wis for the establishment of a hospital to be conducted by the Norwegian Lutheran Church of America $50 000 on condition that $100 000 is raised in six years by the church to be donated by Torger G Thompson

Methodist Episcopal Hospital Brooklyn and the General Hospital Society of Connecticut $25 000 each by the will of William P Armstrong

Flushing Hospital Flushing L. I $25 000 by the will of Mrs Angeline M Booth

Grinnell Community Hospital Association Grinnell Iowa about $25 000 on the death of her sister by the will of Sophronia G Turner

Woman s Medical College of Pennsylvania Philadelphia $21 000 the income to be used for scholarship purposes by the will of Dr Emma Culbertson of Boston

Jewish Convalescent Home Torresdale Pa $15 000 an initial donation of $10 000 by Joseph B Fursman to build a separate wing for cardiac cases and $5 000 that was contributed at the annual meeting of the directors

Fifth Avenue Broad Street and the Lenox Hill hospitals New York and the Sisters of the Poor of St Francis and St Vincent s hospitals each $5 000 by the will of Nicholas Rath

Barton Dispensary Philadelphia approximately $1 000 in pledges by the alumnae of the Woman s Medical College of Pennsylvania at their annual meeting

Hollywood (Calif) Hospital Association $500 anonymously

Sisters of St Mary Baraboo Wis property for a hospital by Mrs Della Ringling of Baraboo

For the benefit of humanity the residue of her estate and forty acres of her farm near Warrenton Ore for a public park in memory of her parents on her death by Dr B A Owens Adair

Department of Labor—Secretary of Labor Davis in a communication to Surgeon General Cumming of the U S Public Health Service requests full information as to the legislation necessary to secure a thorough physical examination of every alien who is admitted to the United States through the immigration ports Secretary Davis also announced his intention of recommending to Congress the enactment of such legislation at the earliest possible moment His communication reads in part as follows

The protection of the health of American citizens against disease carried by incoming aliens is of the utmost importance and it seems to me should be thorough at every port I note in your recent statement that Ellis Island N Y and Angel I land Calif are the only immigration stations that have satisfactory facilities for a thorough medical examination Surely Seattle and Boston are important ports where many aliens enter and thes should be medically in the same

class with Ellis Island and Angel Island I am assuming that all ports have equipment which will make thorough examinations possible but that the want of equipment at some of the smaller ports merely requires a longer time to complete an examination and that additional equipment at the larger ports facilitates examination In the final analysis loathsome contagious diseases are as dangerous to American citizens when coming through a small port as when coming through a large port It is barely possible that those afflicted with diseases knowing that the examinations at the smaller ports are not so thorough seek the smaller ports for entrance The subject of examination of seamen seeking shore leave I think requires immediate and thorough attention The privilege of shore leave applies to all seamen including even the races which are barred as immigrants and the zones from which the immigrants may not come Seamen in the very nature of things touch some time or other all the ports of the world and thus are more likely to be carriers of disease than are immigrants If there is no provision in the law for thorough examination of seamen who seek shore leave the provision should be made therefor Will you be good enough to give me a full and detailed statement of what is necessary by way of either legislation or appropriation so far as you know in order to secure a thorough examination medically of every alien who enters the United States at any port anywhere? Also kindly indicate to me if you will the scope of legislation so far as your own bureau is concerned for extending the service so that I may know what legislation should be provided in connection with this department Also kindly let me know what provision by way of appropriation for the extension of the service is made in connection with your service so that I may know what recommendations to make for extending the service so far as this department is concerned I should appreciate it if you would give me this report as soon as possible so that I may have it when preparing my report to the President and to Congress for the fiscal year ending June 30 1922

FOREIGN

Postgraduate Work in Vienna—A cablegram just received from Dr Kettelkamp, Secretary of the American Medical Association of Vienna, states 'The unhappy conditions set forth in our letter of March 14 have been adjusted Postgraduate work in Vienna is on pre-war basis"

Bust Presented to Thibierge—The retirement of Dr G Thibierge from his dermatologic service at the Hopital Saint-Louis at Paris was the occasion of the presentation of a bronze portrait bust, and tribute from numerous speakers who lauded not only his scientific work but his leadership in organization, and skill in teaching

Cancer Research Committee—The minister of hygiene in France has organized a special commission to coordinate the efforts and research in regard to the etiology, clinical study, treatment and prophylaxis of cancer Dr E Roux of the Pasteur Institute is the honorary president of the commission and Prof Quenu is the acting president The commission includes a large number of clinicians and workers in these lines

University News—At the annual commencement of the Mukden Medical College, Dr Dugald Christie, principal of the university, gave the opening address It was announced that in 1924, through the generosity of Sir Joseph Maclay former British shipping controller, the Mukden Medical College will be open to women students — The Rev Dr Webster addressed the students and opened a new outpatient department of the Mukden Hospital, which is attached to the college of medicine

Infant Welfare Conference—The week of July 3-8 will be known as Baby Week in London The object is to further the child-adoption movement for Great Britain Until the present time, legal adoption of children in that country could not be carried out and the new propaganda aims at enactment of laws to legalize such adoptions This may result in a plan for adoption of English orphan children in American families Dr Henry Dwight Chapin of New York who sailed for England, June 21, will give an address at the conference entitled "An Alternative to the Institutional Rearing of Children"

Kuling Medical Association—The summer activities of the Kuling (China) Medical Association include, Good Health Week, July 17-22, a course for educational workers and mothers, in which they will take up school inspections simple physical examinations and corrective hygiene, a course in physical training for girls, scientific health lectures every evening during Good Health Week, by Prof C H Robertson, a sanitary survey of Kuling under the direction of Dr R M Atwater, a course in physical training for Chinese at Lily Valley in August, by Dr Gray of the Y M C A, Shanghai, and the annual banquet of the association, August 1

Knighthoods for the Medical Profession—The list of honors conferred in June, on the occasion of the king of England's birthday, contains the names of several members of the medical profession Sir Berkeley Moynihan, who has founded the most outstanding school of surgery in the country, received a baronetcy Knighthoods were allotted to Dr H Kerr Anderson master of Gonville and Caius College, Cambridge Prof W M Bayliss, professor of physiology, University College, London, Dr John Macpherson, professor of psychiatry, University of Sydney, Australia, Dr Douglas Rice Oxley, mayor of Kensington, London and Dr David Maurice Serjeant In the Order of the Bath, knighthoods were given to Sir Robert Hill, director general of the medical department of the Royal Navy, Major General Klenkinsop, and Mr Richard R Cruise, surgeon-oculist to the king, Major A W Lynsdale professor of materia medica, Madras Medical College, becomes Companion of the Imperial Service Order

Personal—Prof E Schmiegelow of Copenhagen has been elected an honorary member of the Vienna Laryngologic Society——The *Ugeskrift for Læger* relates that Dr T Madsen of Copenhagen has been given the Polish decoration Polonia Restituta——A banquet was tendered recently to Dr G Marañon of Madrid to celebrate his election to the Academia de Medicina His address on taking his chair was on the present status of the theory of internal secretions——The Spanish Gynecologic Society recently held a special session in honor of Dr Cospedal who is retiring from charge of the Princesa Hospital having reached the age limit——The *Medicina Ibera* relates that Dr L Recasens was the guest at a banquet given in honor of his successful competition for a post in the Beneficencia Municipal——Prof Martinez Vargas, dean of the Barcelona medical faculty, has been appointed senator——The completion of forty years of university teaching by Prof E Maraghano is to be celebrated by the foundation of a medical library at the University of Genoa to bear his name

Deaths in Other Countries

Dr **Edmund Fallows Lawson**, C M S, Hospital Funing, Fukien, South China and Dr Marcus MacKenzie, both medical missionaries from England, contracted pneumonia plague while attending the sick and died in Foochow, recently——Dr **Gordon Ley**, London, gynecologist, Charing Cross Hospital in an aeroplane accident in the English Channel, June 3——Dr **G Martin**, a prominent ophthalmologist of Bordeaux——Dr **C E Mariani**, of Turin editor of the *Archivio di Antropologia Criminale* and director of a private sanatorium He has published a number of works on criminal psychology, teratology, psychic epilepsy, etc——Dr **F Boschetti**, professor of clinical medicine at the University of Modena——Dr **J W Cardoso** of Rio de Janeiro

Government Services

Additional Grounds for Walter Reed Hospital

President Harding through the director of the budget, has recommended to Congress that the sum of $440 000 be appropriated for the acquisition of additional land for the Walter Reed General Hospital, Washington, D C The sum of $350 000 has already been appropriated by the legislative branch, but it has been found that this is insufficient to carry out the plans for securing the property in the vicinity of the institution

Nursing Service for Disabled Veterans

Before taking its summer recess the House of Representatives passed the pending bill providing the maximum amount to be paid disabled ex-service men requiring the constant assistance of a nurse or attendant The sum fixed was $50 a month Heretofore, disabled ex-service men were allowed $20 a month for a nurse or attendant The law applies specifically to disabled veterans who are totally blind or suffering with mental diseases that do not confine them to an asylum

Vocational School for Neuropsychiatric Cases

A resident vocational school for neuropsychiatric cases has been established by the U S Veterans' Bureau at Chick Springs, S C The institution will provide for treatment of 250 disabled ex-service men, already assigned there A systematic course of instruction such as is feasible for neuropsychiatric patients has been established The vocational school and hospital consists of a new building fully equipped with machinery, by which students will learn various trades, with additional facilities for medical treatment A corps of experienced teachers has been engaged by the Veterans Bureau to supervise the training while physicians and nurses will look after the physical welfare of the ex-service men

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 19, 1922

Deanglicization of the Indian Medical Service

The Indian Medical Service which used in its upper ranks to be almost entirely recruited from Great Britain is rapidly losing its British element It is true that Indians were always eligible but the very difficult competitive examination was held in London and the Indian medical schools had not reached a level capable of turning out competitors The Indians who competed were therefore the few who could be educated in England, and they furnished only a small minority of the service There was a "subordinate medical service" recruited entirely from India and manned by men termed the "assistant surgeons," whose training was below the European standard, and they permanently held a subordinate rank With the recent granting of powers of self-government to India and the improvement of its medical schools natives have entered the medical service in greatly increased numbers The result is that a newly appointed British officer is faced with the possibility of having to work under seniors who may be natives This is objectionable to the ordinary Britisher, and the result is that there is greater and greater difficulty in recruiting the service from British sources At one time the Indian Medical Service was considered a splendid field for able and ambitious young physicians The pay was higher than that of the medical service of the British army and, in addition, valuable civil medical appointments in India were a perquisite of the service for there were no other physicians available The result was that the service reached a high level and numbered many investigators who shed luster on British medicine With the exception of Manson all the pioneers of tropical medicine belonged to its ranks Now the difficulty of recruiting is so great that the competitive examination has been dropped, and even British physicians cannot be induced to enter Recruiting in England is at a standstill If the native physicians who have taken the place of British maintain the same high standard of efficiency nothing can be said against the change as regards the military part of their work for that is virtually confined to native troops But there is the difficulty that the European population of India is dependent on the service for medical attendance, and objects to be handed over entirely to natives however skilful they may be It was recently stated in the House of Commons that in the country districts of Bengal there are only five European physicians and that of twenty-four country districts of Madras there is a European physician in only seven The result will be that the Indian Civil Service also cannot be recruited in England for the Englishmen cannot be expected to take their wives up country to places where they cannot call in an English physician

Retirement of Dr Head

A complimentary dinner was recently given to Dr Henry Head, F R S on his retirement in recognition of his services as editor of *Brain* for seventeen years The chair was taken by Sir Charles Sherrington F R.S professor of physiology at the University of Oxford and president of the Royal Society, whose outstanding contributions to neurology are so well known Proposing the health of Dr Head he said that under his direction the influence of *Brain* had been increased and extended forming a bond between the neurologists in these islands and those across the channel and beyond the Atlantic Every worker in neurology knew that he could get a sympathetic hearing and an opportunity from Dr Head He had consistently upheld the scientific method in neurology and in his own work He had his reward in the position *Brain* had obtained as a worthy representative of British science

Sir David Ferrier, one of the founders and original editors of *Brain* then sketched its history In 1877 those interested in neurology felt the need of a special journal The reports of the West Riding Asylum the first school of neurology in this country founded by Sir James Crichton-Browne in 1871 came to an end in 1876 In that year, *Mind* was started by Prof Croom Robertson but it was concerned mainly with pure psychology A committee consisting of Crichton-Browne Bucknill Hughlings Jackson and himself resolved to establish a journal devoted to the anatomy physiology and pathology of the nervous system The title Brain was selected and the first number was issued in April, 1875 It was edited in alternate years by Crichton-Browne and Ferrier for five years Then, Dr de Watteville became acting editor He was followed by Percy Smith, and, in 1905 Dr Head became editor The value of the journal had been greatly enhanced by his epoch making researches

Dr Head in responding, described the early financial struggles of the journal, speaking of the constant deficit which had to be defrayed out of the editorial pocket By rigid economy a condition of financial solvency was at last attained During the war difficulty again arose In the early days Dr Head read Hughlings Jackson's papers on aphasia and was so struck by their importance to science that he reissued them as a double number Congratulatory letters came from all parts of the world, and Von Monakow not only translated them into French but devoted a large issue of the *Schweizer Archiv* to a critical consideration of Jackson's views, which were entirely unknown on the continent Then Sherrington's classic paper on postural activity of muscle and nerve was published Though the issue was sometimes delayed, the journal appeared every year during the war But the colossal rise in the price of paper and in wages again caused a deficit By drastic measures financial solvency was again attained *Brain* had become an international organ of neurology and was universally considered as representative of the serious side of English work English neurology had influenced foreign thought because it had brought something distinctive It had been characterized by two features—dependence on clinical observations and consistency in looking at pathologic facts from the physiologic point of view This began in 1859, when that adventurous genius Brown-Sequard came to England Hughlings Jackson was profoundly influenced by him The next most serious influence on English neurology was the publication by their chairman of the Integrative Action of the Nervous System" which reinforced the tendency always present to regard pathologic facts from a physiologic standpoint, a principle still incompletely assimilated abroad

In closing Dr Head spoke of his pleasure in leaving the journal in the competent hands of his successor, Dr Gordon Holmes

A "Rat Barrack"

A correspondent of the *British Medical Journal* has unearthed the following ingenious method of dealing with rats which he found in Hall's book Ireland, published in 1841

Mr Russell has a rat barrack' on his premises It is about 12 feet long 6 feet broad and 4 feet high with a coping stone on the top that projects a couple of feet inside the wall The inside of the wall is full of holes that just admit a rat's body leaving the tail outside The whole is covered with old boards There are two passages for them to come out into the yard where they are fed and never disturbed The consequence is they never go into his store where the bacon is Once every three months he closes the holes that communicate with the yard He uncovers the walls and the rats all run into the holes Their tails are hanging out. A man goes in takes them one by one by the tails and throws them into a barrel where they are all destroyed to leave room for a fresh supply

The Influenza Epidemic

The quarterly return of the registrar-general shows the severity of the influenza epidemic of the early months of the year Influenza was a primary or secondary cause of death in no fewer than 16,888 cases in England and Wales in the first quarter of 1922, and accounted for 10 2 per cent of the total deaths Moreover, the total deaths were 36,204 more than in the first quarter of 1921 This is usual when an epidemic is prevalent When persons suffering from chronic disease are stricken in the epidemic, cause of death is not given as influenza A remarkable fact is that during the epidemic more women than men died from the disease

PARIS

(From Our Regular Correspondent)

June 9, 1922

De Lapersonne's Mission in America

At a recent session of the Academy of Medicine, Dr F de Lapersonne, professor of clinical ophthalmology of the Paris Faculty of Medicine, presented a report concerning his mission as representative of the academy at the international congress of ophthalmology, held in Washington, April 25-28 Our friends in the great American republic," said de Lapersonne, "made elaborate preparations for the congress, as usual, and its management was perfect" After a review of the principal work of the congress, de Lapersonne spoke of various hospitals and universities that he visited during his short stay in the United States By coming in contact with American colleagues, he was able to observe the important scientific work which is being undertaken, and which is made possible by the extensive means at the disposal of investigators in the United States He stated that it is impossible to imagine, in France, the unlimited resources available for study and the development of private initiative "With their tenacity of purpose and their practical minds," said de Lapersonne, 'American scientists desire to become in medicine, as in other provinces, the first nation of the world" De Lapersonne believes that the results they obtain so rapidly fully justify this ambition American professors expressed the desire to cooperate more closely with their French colleagues through the exchange of scientific works, the reciprocal publication of articles in medical journals of both countries, and the exchange of professors and students The principal obstacle to this is the fact that few Americans speak French and that, in turn, few Frenchmen speak English De Lapersonne believes that it is important for French children to learn English "so that they may benefit by the ever-increasing amount of interesting work coming from Anglo-Saxon races"

Edema of Larynx in Mumps

In a previous letter, I mentioned the occurrence of appendicular manifestations with mumps (THE JOURNAL, May 6, 1922, p 1401) Edema of the larynx is another complication in mumps which seems scarcely to have attracted attention in the past Textbooks and practical treatises on laryngoscopy do not make mention of it, but this complication appears to be more frequent than we think, as is shown by a communication presented by Drs L Reverchon and G Worms to the Societe parisienne de laryngologie During six years in the otorhinolaryngology service of the military hospital of Val-de-Grace, Reverchon and Worms observed three cases of edema of the larynx in mumps The evolution of their two first cases was very simple, and the edema could have been considered as an ordinary clinical curiosity, interesting only on account of its infrequency But a third case, with fatal outcome in less than five hours after admittance to the hospital, and seven or eight days after subsidence of the mumps, demonstrated that this complication can have a serious prognosis notwithstanding the usual benign course of mumps The seat of the edema was the same in the three cases the posterior region of the vestibule, the aryepiglottic muscle This infiltration of the submucous connective tissue was unilateral in the first case and bilateral in the two other cases The three cases of mumps were of submaxillary type, isolated in the first case, and with parotid mumps in the second case Tracheotomy was not performed at once in the third case, because the patient did not present any signs of asphyxia, there was no distress or cyanosis, but he was pale and drowsy On the other hand, laryngoscopic examination revealed that the edema did not reach the epiglottis, and the throat appeared to be sufficiently permeable The slight dyspnea was not accompanied by laborious breathing, and the immobility of the posterior commissure during inspiration, with slight intermittent roaring, recalled bilateral paralysis of the dilators, which, as a rule, does not require immediate tracheotomy This occurrence has demonstrated that the posterior edema, by blocking the arytenoids, presents serious consequences even when the dimension of the glottis is not particularly reduced

During the discussion that followed the communication, Lubet-Barbon remarked that pallor and livid discoloration of the teguments are the main symptoms of nonacute edema of the larynx He has seen crises of asphyxia suddenly complicating this apparently mild condition, and ending with death after two or three days of slight dyspnea On the other hand, these patients may also succumb from syncope rather than from suffocation He has witnessed deaths even after tracheotomy In such cases, then death is due to compression of the pneumogastric nerve or one of its branches

Morbid Disturbances Due to the Handling of Celluloid

The number of occupational diseases is constantly increasing, and Dr F Heim, professor of industrial hygiene of the Conservatoire National des Arts et Metiers, has directed attention to an interesting observation With the collaboration of Drs E Agasse-Lafont and A Feil, he examined, from a clinical and hematologic standpoint, women employed in making small portable battery boxes of celluloid Their ages ranged from 17 to 53, and they have been working with celluloid from one to five years They employ two substances the celluloid powder, containing camphor, is very inflammable and its odor is disagreeable to any one entering the factory, the other is a sort of glue containing a mixture of equal parts of amyl acetate and acetone Their inquiry on morbid manifestations attributed to celluloid intoxication revealed one transitory clinical sign, headache, and a persistent and frequent hematologic symptom, eosinophilia This cause of toxic eosinophilia is important, and Agasse-Lafont and Heim had already reported it after an inquiry concerning the condition of workmen pasting and perforating films in a motion picture studio It resembles somewhat benzene eosinophilia Although it has not the pathognomonic value of granular degeneration of erythrocytes in chronic lead poisoning, this eosinophilia is interesting because it gives an almost indubitable proof of intoxication or, at least, of a reaction to saturation of the organism by fumes of acetone and of amyl acetate On the other hand, the lack of knowledge of this cause of eosinophilia might entail errors in diagnosis, as when a workman handling celluloid is clinically suspected of intestinal parasites or hydatid cyst, as the diagnosis of these affections is often based on the finding of eosinophilia

War Losses

Up to Sept 1, 1921, the pension office had received 2,500,000 claims for pensions or allowances of which 1,712 000 were granted being thus distributed 830,000 among the incapacitated, 447,000 among widows and orphans, and 413,000 among

parents Fifty-nine thousand of the incapacitated were totally invalided, and 60,000 suffered disability amounting to from 80 to 95 per cent The 456,125 pensions granted up to April, 30, 1920, were thus distributed

Percentage of Disability	Final Pensions	Temporary Pensions
10	2 059	56 665
20	3 064	92 390
30	1 120	78 088
40	455	50 013
50	346	38 675
60	14 915	24 465
65	41 553	
80	40 329	6 689
100	5,104	5 645

Following are the statistics of the war wounded From 1914 to 1916 wounded and sick (front and rear lines) 1914, 776,274, 1915, 1,326,911, 1916 677 891, sick 1915 1,117,930, 1916, 899,310 From 1916 to 1919, at the front wounded 1917 269,853, 1918, 212 915, 1919, 23,622, sick 1917 360,911, 1918 321,706, 1919, 87,244 Rear lines wounded, 1917, 338 907, 1918, 610,987, 1919, 46,201, sick 1917, 769 896 1918, 940 452, 1919, 208,380 For Algeria and Tunis wounded 1914 22,015 (including the sick), 1915 8 055, 1916 18,099, 1917 13 696 1918, 12 496, 1919, 2 821 sick 1915, 15 683, 1916 54 005, 1917, 44,835, 1918, 55 870, 1919, 12 946 Summing up these figures we have wounded, 3 594 889, sick, 4 988 213 It may be interesting to compare these figures with those concerning men sent back from the front to the interior of the country 1914, 490,000, 1915, 1 019,000, 1916 551 000, 1917, 375 000, 1918, 675,000

Medical Tours to Water and Health Resorts

Under the direction of Dr Paul Carnot professor of therapeutics in the Paris faculty of medicine, and of Dr F Rathery, associate professor, the sixteenth medical tour to the mineral water and health resorts of France will include the stations of the southwest and those west of the Pyrenees Mountains Arcachon, Biarritz Dax Pau, Cauterets Luchon etc It will take place from August 26 to September 6 of this year Members will meet at Arcachon, August 27 and will disband at Luchon September 6 French and foreign confreres can subscribe by sending a check of 680 francs to Dr Maurice Gerst general secretary 94 Boulevard Flandrin, Paris (16) This fee includes all expenses

BELGIUM

(From Our Regular Correspondent)

LIÉGE, June 7, 1922

Regulation Concerning the Sale of Disinfectants

To repress fraud and abuses in the sale of proprietaries which rely entirely on advertising for their existence the authorities have compiled regulations concerning the sale of disinfectants and antiseptics The containers must now bear a label indicating (1) the name and address of the manufacturer or person selling the product (2) its composition, indicated in usual terms regardless of the chemical formula, (3) the instructions for the various uses of the product and (4) its bactericidal value, especially the concentration, temperature and the time required to kill bacilli Pamphlets or advertising matter pertaining to these products must be identical with the label and contain only additional information that may be useful to the purchaser The retailing of disinfectants or antiseptics is limited to public drug stores All products not registered in the pharmacopeia, but sold as disinfectants or antiseptics, are subject to these regulations

Testing the Mentality of Schoolchildren

Dr Remy, chief inspector of hygiene of the ministry of the interior, recently, in the schools of Etterbeek made practical experiments before the members of the Belgian society of pediatrics by means of apparatus and procedures invented by him to test the fatigue and mental capacity of schoolchildren He had previously given to the society the results obtained during a course of research extending over more than seven years, and had shown how he can classify schoolchildren according to their mentality in a practical and rather accurate manner The apparatus and procedures conceived by him allow teachers to examine simultaneously all children in one grade and to establish the average of visual, auditive and tactile memories The age of children and results of their yearly school examinations furnish other averages Gifted children are above these averages, and the others are below Account was also taken, at the same time, of conditions that may influence the performance of pupils, on which depend not only advice as to choice of profession or life work and the assignment of scholarship funds to those who are better endowed but also, in the last analysis, the hoped for increase in productive capacity and the consequent uplift that will accrue to their country

Ovarian Grafts

Dr de Bruyn reported to the society of gynecology and obstetrics certain experimental facts as to ovarian grafts citing one clinical case in which fragments of ovaries were transplanted in the subcutaneous tissue of a woman of 25 after subtotal hysterectomy with bilateral ovariectomy The grafts hypertrophied, and ablation was performed 178 days after the operation, whereupon the menopause occurred Statistics from the Ghent clinic show that, in cases of hypertrophy of grafted tissue postoperative menopause disturbances are less frequent when there is no transplantation or when the graft is not larger than a pea On the other hand, a grafted fragment of the corpus luteum hypertrophies only in 20 per cent of the cases, a fragment of the medulla in 33 per cent and a portion of the cortical layer in 70 per cent The cortical layer seems to prevent disturbances of ovarian insufficiency more than any other tissues of the ovary Ovaries in which a grafted fragment had hypertrophied had a normal histologic aspect, those in which there was no graft, or a graft smaller than a pea, were composed mostly of sclerous tissues while in one, a woman of 40 the ovaries presented the histologic picture of a normal organ After 40, grafts never seem to hypertrophy

Death of Ernest Solvay

Although Ernest Solvay was not a member of the medical profession his life was too closely associated with it to let his death pass unnoticed He was an honorary doctor of the University of Brussels, and an eminent sociologist, and his generosity was proverbial His improved method for the manufacture of soda was a great economic achievement and he devoted a great part of his wealth to the foundation of scientific and social institutions He created the Institute of Physiology the Institute of Sociology and the School of Commerce in the University of Brussels, and he founded also the International Institute of Chemistry and the International Institute of Sociology

Exchange of Lecturers Between France and Belgium

The end of the academic year 1921-1922 was marked by the beginning of a new undertaking created after the armistice which is the consecration of the friendly ties uniting France and Belgium in every form of their activity The faculties of Brussels and Liege recently heard a series of lectures by French professors Gley spoke on endocrine glands, J L Faure gave motion picture lectures on his method of hysterectomy Picque demonstrated the usefulness of anatomy as applied to surgery by a series of twelve demonstrations, and Balthazard presented the problem of intoxication by carbon monoxid gas This first series of foreign lectures was much appreciated by students and also by physicians who attended in large numbers

Marriages

BEAUFORD IVAN PIPPIN Excelsior, Wis, to Miss Beba Nevada Hudson of Richland Center, Wis, April 6

LESTER EMMET TRETHEWAY, Manteca, Calif, to Miss Charlotte L Amarantes of Pleasanton, Calif June 18

KARL BUSBEE PACE, Greenville, N C, to Miss Lida Harrison Taylor of Goldsboro, N C, June 7

EDGAR JOSEPH CRAITE, Rich Lake, Wis, to Miss Margaret Sheedy of Green Bay, Wis, May 18

WALTER H SPOENEMANN, Chicago, to Miss Carol Stucke of Michigan City, Ind, June 17

PAUL PLEASANT COOPER, Zirkle, Ga, to Miss Sallie Williams of Patterson, Ga, June 3

VICTOR HUGO GARDNER, Dunnel, Minn, to Miss Florence Jack of Tomah, Wis, June 27

EMERY DON LUKENBILL, Portland, Ind, to Miss Treva Steed of Redkey, Ind May 8

WESLEY RAYMOND WELLS to Miss Flora S Monroe, both of Lake Forest, Ill, recently

HARRY EUGENE WILSON, Baltimore, to Miss Angelo Pauline Kehoe at Baltimore, June 24

LEE SANFORD SEWARD to Miss Eunice Smith, both of Ahwahnee, Calif, June 15

HUBERT ROGERS ARNOLD to Miss Agnes Ward, both of Oakland, Calif, recently

MAURICE E SHAMER to Dr Bertha E Tapman, both of Baltimore, June 18

B H ABEREMBT, Milwaukee to Miss Rosalia Sullivan, Wausau, May 18

EDWARD DUDLEY ALLEN to Miss Grace V Robeson, both of Chicago, June 14

RICHARD KOVACS to Miss Ina Clare Nickel, both of New York June 14

Deaths

Herman Tuholske ⊕ St Louis, Missouri Medical College, St Louis, 1870, formerly demonstrator of anatomy and professor of surgery at his alma mater, and professor of surgery at the Washington University Medical School, at one time physician-in-chief at the St Louis City Dispensary surgeon-in-chief at the Jewish Hospital, consulting surgeon at St John's Hospital, Jewish Home for Chronic Invalids and others, president of the St Louis Medical Society in 1908, died, June 12, aged 74, from chronic interstitial nephritis and hypostatic pneumonia

Winton Markwood Nihiser ⊕ Hagerstown, Md, College of Physicians and Surgeons, Baltimore, 1882, Bellevue Hospital Medical College, New York, 1885, formerly president of the Washington County Medical Society, served as surgeon for the Baltimore and Ohio Railroad for a number of years, was found dead in his office, June 17, with a bullet wound in his head, presumably self-inflicted, while suffering from ill health, aged 63

Edward Aaron Aronson ⊕ New York, Columbia University College of Physicians and Surgeons, New York, 1899, at one time instructor in the Fordham University Medical College and the College of Physicians and Surgeons, New York, formerly instructor in internal medicine at the New York Polyclinic Medical School, on the staff of the Mount Sinai Hospital, where he died while undergoing an operation, June 24, aged 47

John Cropper Wise ⊕ Medical Director, U S Navy, Washington, D C, Washington University School of Medicine, Baltimore, Md, 1869, entered the Navy as assistant surgeon April 28, 1870, and retired Oct 7, 1910, was fleet surgeon on the *Baltimore* of the Asiatic Fleet from 1897-1899, taking part in the battle of Manila Bay, formerly in command of the U S Naval Hospital, Washington, died, June 13, aged 73

Edison Burr Starr ⊕ Columbus, Ohio, Jefferson Medical College, Philadelphia, 1905, formerly director of industrial hygiene and medicine in the U S Public Health Service, at one time health director of Springfield, chief of the state division of industrial hygiene, died, June 19, aged 41, from typhoid fever

Reuben Lindsay Robertson, Charlottesville, Va, University of Virginia Department of Medicine, Charlottesville, Va, 1882, following his graduation he served in the U S Army for a period of twenty years, formerly city health officer, died, June 4, aged 62, at University Hospital, from septic pleurisy

George Howard Wilson ⊕ Mount Carmel, Ill, University of Louisville Medical Department, Louisville 1912, served during the World War in the M C, U S Army, with the rank of captain, specialized in radiography, coroner of Wabash County, died, June 19, aged 30, from carcinoma of kidney

Allen J Perkins, Lake Charles, La, Medical Department of the Tulane University of Louisiana, New Orleans, 1888, member of the Louisiana State Medical Association, coroner of Calcasieu Parish, died, June 20, from a bullet wound through the head, presumably self-inflicted, aged 56

Joseph Albert Hague ⊕ Alton, Fla, Georgia College of Eclectic Medicine and Surgery, Atlanta, Ga, 1913, formerly member of the state board of medical examiners, aged 38, shot and killed himself, June 12, in one of the rooms of his hospital

Martin V B Newcomer, Tipton, Ind, Medical College of Ohio Cincinnati, 1867, member of the Indiana State Medical Association, and the American Association of Railway Surgeons, died at the home of his daughter in Delphi, June 13, aged 85

Rosalie Bell ⊕ New York, Woman's Medical College of the New York Infirmary for Women and Children, New York, 1898, for six years an inspector of the department of health, died, June 14, at West Brighton, N Y, from heart disease

William Leo Mulcahy ⊕ Far Rockaway, N Y, Albany Medical College, Albany, N Y, 1903, on the staff of the St Joseph's Hospital, died, June 16, at the St Mary's Hospital, San Francisco, from cerebral hemorrhage, aged 40

Benjamin Franklin Abernathy, Danville, Tenn, College of Physicians and Surgeons of the Western District of New York, Fairfield, N Y, 1890, died recently, aged 72, from influenza and pneumonia

Harry Charles Gabriel, Athens, Ohio, Starling Medical College, Columbus, Ohio, 1894, member of the Ohio State Medical Association, died, June 2, at Beckley, W Va, aged 55, from heart disease

George Albert Libbey, Tacoma, Wash, Dartmouth Medical School, Hanover, N H, 1875, member of the Washington State Medical Association, died, June 18, aged 71, from cerebral hemorrhage

James O Bates, Grand Haven, Mich, Hahnemann Medical College and Hospital of Chicago, 1884, member of the Michigan State Medical Society, was found dead in his office June 17, aged 73

William M Richards, Joliet, Ill, Chicago Medical College, Chicago, 1876, died, June 17, aged 68, at the St Lukes Hospital, Chicago, from injuries received when he was struck by a street car

Cecil Stevens Cutler, Northampton, Mass, Medical Department of the University of the City of New York, 1877, formerly member of the city council, died, June 8, aged 71, from heart disease

Marshall E Cooksey, Etoile, Ky, Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, Ky, 1880, died, June 9, aged 82, from tuberculosis

Guy S Dunbar, Cleveland, University of Louisville Medical Department Louisville, Ky, 1915, member of the Ohio State Medical Association, died recently, aged 33, from pneumonia

Mark A Brawley ⊕ Frankfort, Kan, Cincinnati College of Medicine and Surgery, Cincinnati, 1873, formerly city health officer, veteran of the Civil War, died, June 16, aged 72

Charles Williamson Crumb ⊕ Utica, N Y, Medical Department of the University of the City of New York, 1886, died, June 18, aged 56, at his summer home in New Hartford

Arthur Otis McLaughlin ⊕ Haverhill, Mass, Tufts College Medical School, Boston, 1912, died, June 18, aged 42, at the Hale Hospital, from heart disease

⊕ Indicates Fellow of the American Medical Association

Edward F Bruce, Pensacola, Fla , Medical Department of the Tulane University of Louisiana, New Orleans, 1897, was found dead in his office, June 19, aged 45

George Louis Schmitt, Kansas City, Mo , University Medical College of Kansas City, Mo, 1898, aged 46, was shot and killed in his office recently by a patient

Albert H Felch, Beatrice, Neb , Hahnemann Medical College of Philadelphia, 1876, member of the Nebraska State Medical Association, died, June 3, aged 72, from paresis

William Bostick ⊕ St Louis, Kansas City Medical College, Kansas City, Mo, 1898, died, June 17, aged 45, at the Evangelical Deaconess Home and Hospital

James W Jenney, Salina, Kan , Western Homeopathic College, Cleveland, 1868 member of the Kansas Medical Society, died, June 14, aged 75, from pneumonia

William C McCurdy, Philadelphia, College of Physicians and Surgeons, Baltimore, 1874, died, May 20, aged 66, at the Philadelphia General Hospital

George Howe Winkler, New York, University of Georgia Medical Department, Augusta, Ga , 1881, died, May 23, aged 74, from cerebral hemorrhage

George W Meredith, Lincoln Neb , Indiana Medical College, Indianapolis, 1873, formerly member of the state legislature, died, June 15, aged 70

William F Bullard, Berrien Springs Mich , Medical College of Indiana, Indianapolis, 1880, died May 18, aged 73, following a long illness

George Heslop Grey, Rochester, N Y , Niagara University Medical Department, Buffalo, 1893, died, June 1, aged 50, from diabetes mellitus

Frederick James Barrett ⊕ New York, Columbia University College of Physicians and Surgeons, New York, 1905, died recently, aged 52

Kennett L Jones, Lewisburg, Tenn , Vanderbilt University Medical Department, Nashville, 1850, was struck and killed by lightning, June 12

Dennis Alphonsus Murphy ⊕ Gloversville N Y , Albany Medical College, Albany, N Y , 1904, died June 14, aged 41, from pneumonia

George W Vernon, Dexter, Mo , Central College of Physicians and Surgeons, Indianapolis, 1886, died, June 5, aged 64 from heart disease

Caswell A Atkins, Power Springs, Tenn , Medical Department University of Tennessee, Memphis, Tenn , 1899, died, June 13, aged 68

William Harper, Byron, Mich , Rush Medical College, Chicago, 1866, formerly a member of the state legislature, died, June 3, aged 79

L S Young, Moreland, Ga , Georgia College of Eclectic Medicine and Surgery, Atlanta, Ga , 1880 died, June 9, aged [illegible] from senility

Clarence S Latham ⊕ Hamilton Ohio, Starling Medical College, Columbus, Ohio, 1905, died June 2, aged 40, from heart disease

Wickes Washburn, Elizabeth N J , Medical Department of the University of the City of New York 1877, died, June 19, aged 68

Joseph Grant Wheeler, Jr ⊕ Bellevue, Pa , University of Pittsburgh School of Medicine, Pittsburgh, 1920, died, June 26

[illegible] Emmet O'Brien ⊕ Scranton, Pa Rush Medical College, Chicago, 1869, Civil War veteran, died June 14, aged 73

Allen M Riggs, Lafollette, Tenn , University of Tennessee College of Medicine, Memphis, Tenn 1893, died, April 5, aged 55

Samuel T Floyd, Kansas City, Mo , Missouri Medical College, St Louis, 1870, Confederate veteran died, June 1, aged 81

Joseph Clark Lackey ⊕ Jamestown Ohio, Ohio Medical University, Columbus, Ohio, 1896, died, May 16, aged 53

William S Taylor, Marrowbone Ky , Kentucky School of Medicine, Louisville, Ky , 1889, died, May 26, aged 63

Josiah S Wailes, Mystic, Iowa, College of Physicians and Surgeons, Keokuk, Iowa, 1889, died, April 16 aged 73

Clarence Augustus Stetson, Lynn, Mass Medical School of Maine, Portland, 1892, died, June 17 aged 61

Maria Allen Jessup, Farfield, Ind., Woman's Medical College, Chicago, 1887, died, May 5, aged 76

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

THE HILLSIDE COMPANY OF S W STAADS

Your Liberty Bonds or Cash Will Be Accepted to Exploit a German Cancer Cure—Twenty Per Cent Profits Assured

A Nebraska physician writes

I am enclosing a letter from the Hillside Company which was sent to me by a clergyman friend of mine whose letter I also enclose These letters are self-explanatory and you have his permission to make use of them if you care to do so '

The letter from the doctor's ministerial friend reads in part

I enclose a letter for your inspection I don t know where that institution got my name but I believe they want to soak a poor preacher

The enclosure itself is a mimeographed letter on the stationery of the Hillside Company, Sioux City, Iowa, and is signed "Dr S W Staads" It is written in German and the first paragraph reads

Dear Friend —It will be of interest to you as it will be to every friend of suffering humanity to know that German physicians have succeeded in their investigations to the extent that they have been able to prepare remedies that have cured the most difficult cases of cancer without operation In fact also patients who had been operated on in vain or who had received roentgen ray or radium treatment without success have been completely cured Through reading German medical literature and the kindness of my medical friends in Germany I became familiar with these remedies a number of years ago and I have now been positively assured that the rights to these remedies for the whole United States will be turned over to us under certain conditions Enormous prospects are thus opened up to us On the one hand this means a great boon for the cancer patients in our country and on the other hand such a concession for the whole United States means untold profits for us All physicians would gladly seize the opportunity if they knew of a cancer remedy that had been authoritatively approved '

The letter then states that it is the purpose of the Hillside Company to send a representative to Germany "to draw up the necessary contracts" which will doubtless result in the shares of the company rising considerably In the meantime this wonderful opportunity is given the "friends and acquaintances" of Staads to get in on the ground floor shares in the Hillside Company at $10 per share! Furthermore, Staads declares himself ready at the request of the purchaser to buy back these shares within two years of the date of issuance at the price paid for them and in addition, assures the purchaser a profit of 20 per cent *'Ich erklare mich bereit auf Wunsch diese Shares zwei Jahre nach Ausstellungsdatum, zum selben Preise zuruck zu kaufen und dass dieselben dann 20% eingebracht haben sollen"*

Any one who wishes to accept this "absolutely safe offer" (*"absolut sichere Anerbieten'*) must fill out the enclosed subscription blank and send it with cheque no later than May 25 'War Savings Stamps and Liberty Bonds will be accepted in payment at price we receive for them"

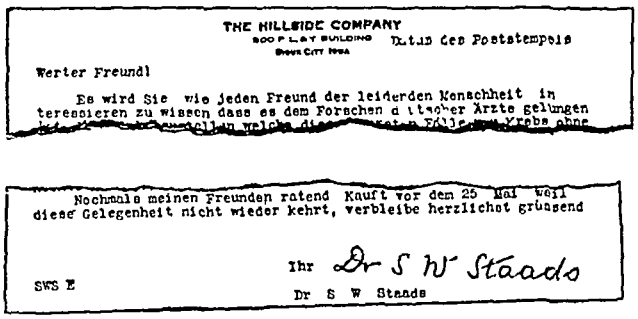
The Hillside Company is, apparently, a family affair, with S W Staads president his son-in-law, vice president and his son (a chiropractor it is said) secretary and treasurer The company is reported to be a "trust estate' with an authorized common stock of $200 000 and an authorized preferred stock of $150 000 How much capital has been paid in has not been learned

SOME EDUCATIONAL DATA

S W Staads' name appears in each issue of Polk's Medical Directories from 1900 until 1917 inclusive In each case it is a display announcement giving the alleged educational and professional qualifications In the directories for 1900 1902 and 1904 Staads is given as a graduate of the 'German Medical College of Chicago Ill , 1892 and of the "Independent Medical College, Chicago, 1899 The "German Medical Col-

lege," long since out of existence, was during its brief span repeatedly characterized by the Illinois State Board of Health as a fraudulent diploma mill It was operated by one Johann Malok who, according to the Illinois State Board of Health, 'profited by the wide-open incorporation laws of Illinois to the extent of securing charters for a brood of fraudulent diploma-selling institutions" The 'German Medical College" was not chartered until Dec 28, 1891, Staads was "graduated" in 1892!

The "Independent Medical College" was a fraudulent Chicago diploma mill whose charter was revoked by the Supreme Court of Illinois in 1899—the year of Staads' "graduation" The directory for 1906 and all subsequent issues contain no reference to Staads' "graduation" from the "Inde-



THE HILLSIDE COMPANY

Werter Freund!

Es wird Sie wie jeden Freund der leidenden Menschheit interessieren zu wissen dass es dem Forschen ärztlicher Ärzte gelungen

Nochmals meinen Freunden ratend Kauft vor dem 25 Mai weil diese Gelegenheit nicht wieder kehrt, verbleibe herzlichst grüssend

Ihr Dr S W Staads

SWS E

Dr S W Staads

Photographic facsimile (reduced) of the opening and closing sentences of the letter of S W Staads in the latest attempt to sell stock

pendent Medical College", Staads still claims graduation from the "German Medical College"

In the same notices in Polk's directories we find Staads is also a "D P Chicago School of Psychology, 1897," and a "B S Chicago Seminary of Science, 1899!" In addition, he claims a 'special course Chicago Homeopathic Medical College, 1897," and "Pratt's Course of Orificial Surgery" over a period of years commencing with 1898 and adding to these years with each subsequent edition of the directory Of Staads' membership in medical organizations the directories showed

Member American Institute of Homeopathy
Missouri Valley Homeopathic Medical Association
Hahnemann Medical Association of Iowa
Sioux City Homeopathic Medical Society
American Association of Orificial Surgeons
Hon Member Nebraska State Homeopathic Medical Society

The directories also gave Staads as "Staff Surgeon, German Lutheran Hospital, Sioux City, and Lecturer to the German Hospital Training School, Sioux City, Iowa"

In the spring of 1911, following a discussion in THE JOURNAL regarding the "fee splitting" evil, a physician sent in a letter that he had received from Staads The opening sentence of the letter called attention to the alleged fact that Staads limited his "work to surgery and gynecology exclusively" and that he would "be pleased to take care of any surgical cases" that might be sent him Later in the letter Staads said

> Should a physician be paid for taking an operative case to a surgeon and for his assistance in such cases and for the responsibility and work he shares? He certainly is entitled to such recompense '

Whether this was a cryptic reference to the secret division of fees, we do not know, the physician who received the letter evidently thought that it was

THE SANITARIUM COMPANY

The Hillside Company is not the first stock-selling scheme of Staads' that THE JOURNAL has felt impelled to bring to the attention of its readers In this department for March 15, 1913, under the title "Another Get-Rich-Quick Scheme," the "Sanitarium Company" of Sioux City, Iowa, was dealt with The Sanitarium Company had for its president S W Staads Its alleged object was 'to manufacture and sell medicines for humankind and animals, chemicals, pharmaceuticals, infant and invalid foods, health coffees, to build and maintain a Sanitarium, etc"—a fair sized order German-Americans, preachers and physicians, were circularized, and a return of '22½ per cent on your money" and, in some instances, 35 per cent was promised to those who would invest

The prospectus declared that the Sanitarium Company had closed a contract with a German drug concern which would give it the exclusive right "to manufacture all of their products as medicines, chemicals, foods, etc, which have a tremendous sale in Europe" Nor was this exclusive concession limited to the United States it took in also Canada, Cuba, the West Indies, Mexico, Philippine Islands, and practically all South America As the prospectus naively said

> You will admit that with such large territory and such excellent preparations which have a great reputation where known we have a wonderful future full of the very best opportunities When thoroughly established in the United States through wide advertising to the physicians druggists and the laity we will gradually have to open branches in Canada Mexico Cuba South America the Philippines etc. Have you any conception of the wonderful possibilities of such work? Just think what it means to have thousands of physicians and druggists as shareholders as we intend to get! All shareholders are entitled to 10 per cent discount for cash on any direct purchase of our goods not marked net and on bills incurred at the proposed Sanitarium A 10 per cent discount means a good deal to the dispensing physicians and druggists and rest assured they will gladly buy from us all they can and recommend our preparations Does not that stand to reason? And that alone spells success

In addition, it was claimed that a large house had been bought in neighboring city (Cedar Rapids), this was going to be remodeled and turned into a "Hospital-Sanitarium' This institution, said the prospectus, would have an advantage over all others in the United States in that it would be the only one in which patients would be able to get the medicinal preparations made by the German concern whose exclusive rights the Sanitarium Company had obtained! As a subsidiary of the Sanitarium Company was the Physio Chemical Company, which put out a line of "patent medicines" These facts and others were given in detail in THE JOURNAL'S article which, in closing, expressed wonder as to how many physicians or 'Dear Reverends' would really invest good money in such a crudely and baldly exploited scheme"

The present scheme is just as crude and bald In order to get preachers and others to send in their Liberty Bond

35% im ersten Jahre sicher!

The Sanitarium Company

SIOUX CITY IOWA

Directors:

Werter Herr Pastor!

Sie sind vielleicht einer der wenigen Menschen die es nicht nötig haben kleine Ersparnisse furs Alter oder fur die Hinterlassenen sicher und gewinnbringend anzulegen Wenn das der Fall ist dann hat

Reproduction (reduced) of the opening sentence of the letter sent out in 1913 to preachers

or their money Staads would have them believe that he can get the exclusive right to some made-in-Germany nostrum that will cure 'the most difficult cases of cancer"

Hookworm Disease in Brazil—A recent report by Belizario Penna shows that, from July, 1918, to September, 1921 about 300 000 persons were examined in the hookworm dispensaries In the federal district and neighboring territory, 236,890 persons were examined, 213,050 of whom were found infected with intestinal parasites More than 34,000 cases of malaria were treated A total of 616,451 hookworm treatments were given There were 34,682 persons vaccinated or revaccinated In some districts, the percentage of hookworm carriers varied from 31 9 per cent to more than 99 per cent Hookworm disease is an old disease in Brazil, where Wucherer and Silva Lima studied it, in 1860, under the name of intertropical hypohemia and tun-tun The hookworm work has lately been conducted under the direction of Dr Lewis Wendell Hackett of the Rockefeller Foundation In 1921 the federal and state appropriations reached $2,300,000, in addition to the annual expenditure of $250,000 by the International Health Board

Correspondence

PROPHYLAXIS OF VENEREAL DISEASE

To the Editor —I have read with interest the communication on this subject by Dr Herman Goodman, THE JOURNAL, June 24 He says, among other things, "The more prophylactics administered, that is, the more admitted exposures, the greater the incidence of venereal disease On the other hand, when opportunity for prophylaxis was reduced by curtailment of opportunity of exposures, the incidence of venereal disease became practically nil" This statement is followed by two imposing tables of statistics One can scarcely but suspect that the author has a subconscious bias against prophylaxis, perhaps for the same reason that the late Secretary of the Navy disapproved of it—that it licensed license The sense of the letter would appear to be that if men are prevented from indulging in intercourse they are not likely to contract venereal disease, a conclusion with which all must agree If one needed statistics to back this up the medical authorities of Sing Sing prison could furnish them

The reason that I call your attention to this matter is that I had not supposed that the American Medical Association was interested in the reduction of disease rate by the exercise of police power on the individual Conceding the fact that abstinence from sexual intercourse is a sure preventive of venereal disease, it appears to me that the enforcement of that abstinence lies in the province of individual morality rather than in that of preventive medicine

ARMITAGE WHITMAN, M D, New York.

"THE WILL TO BELIEVE"

To the Editor —I have received a number of letters approving the position I have taken with regard to the performances of Willetta Huggins, and others expressing, somewhat after the manner of the communications of Dr Babcock and of Dr Nagel in THE JOURNAL June 24 and 31, some reservations and a good deal of skepticism that sight sufficient to recognize colors should be possible despite a blindfold With some acquaintance with the blindfold performances on the stage, I can say that the "goggles" type of blindfold used in Chicago would be regarded as one of the "easiest"—that is, easiest to circumvent Sealing the eyelids with *opaque* court plaster, as suggested by Dr Babcock, would be completely effective, as would also be a number of other devices known to those who have given attention to the subject, and the tests in a completely dark room would also be made decisive Dr Babcock is entirely correct in citing examples of the unusual and expert use of senses by the blind and deaf, and I know of a number of instances more remarkable than those he cites But these cases do not function after the manner shown by Miss Huggins The question of excluding hearing is by no means so simple The experience of submarine detectors during the war seemed to show that nothing less than a device similar to a diver's helmet would answer Only an expert would be competent to determine just how far sound was excluded, though it is open to any one with normal hearing to apply a sound-excluding device and determine just how much he can hear and understand with it or despite it

There is no occasion to add anything in reply to Mr Hooper's public comment on the conclusions which I presented (New York *World*, June 17) and presented not as final but as a caution against the gratuitous hypothesis that the performance demands the assumption of 'smelling" colors or 'understanding" vibrations through the fingers, though it may be pertinent to indicate the apologetics which are needed to defend this strange conclusion To account for the failure, it is urged that the dark room at Madison was full of chemical odors which prevented the "smelling" of colors It did not prevent the "smelling" (?) of colors when a low light was on in the same smelly room, but only when that light was extinguished

Like Dr Babcock I am interested in having the matter determined beyond any doubt For this end I have prepared a set of tests which I should be glad to have any competent person apply in a wholly objective manner and unembarrassed by the presence of any advocate who believes that the performance requires a resort to extraordinary assumptions, or by the presence of a skeptic like myself who—as in the case of mediums who also claim unusual senses—is regarded as emanating unfavorable vibrations interfering with the exercise of the sense in question As I indicated in my article in THE JOURNAL, June 17, the psychologic laboratory has adequate methods and technic to bring the matter to a definite conclusion All that is needed is the cooperation of the subject and the determination of the conditions of the test by competent experimentalists I trust that this will be done in the near future Let it be understood that all depends on the technic and rigidity of the tests

JOSEPH JASTROW, Madison Wis

METHOD FOR UTILIZING ETHYL CHLORID IN LOCAL ANALGESIA

To the Editor —I wish to call attention to a simple but effective method of applying the ethyl chlorid spray for local analgesia I have used this method for the last four years in opening localized infections and in the fulguration of warty growths The reason that the freezing method as universally used is not effective is that the tissues are so hard that pressure enough to cause pain must be applied before the sharpest knife will cut through the frozen tissues The method I suggest is to apply the spray so as to form a circle around the area to be incised or fulgurated care being taken to keep the spray away from the center The width of the frozen area should be at least half an inch, and there should be at least 1 inch of unfrozen area in the center of the circle Blowing the breath on the freezing surface will be found to accentuate the freezing As soon as a white crust forms *all the way around* the incision should be made or the spark applied, immediately There will be very little if any pain, as this is essentially a nerve-blocking anesthesia RAYMOND L BRADLEY, M D, Houston, Texas

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted on request

TREATMENT OF CHEILITIS

To the Editor —I have a patient who suffers from peeling every summer owing I think to the effects of the sun as he is in the open all day The part of the lip affected is the mucous surface just posterior to the mucocutaneous junction I have tried everything I could think of without much benefit This trouble persists until cool weather and then subsides until the next summer Anything you might be able to suggest in the line of treatment would be appreciated The patient cannot protect himself from the sun He has to work in the open Plea e do not publish my name PHYSICIAN

ANSWER.—There are patients who have inflammatory reaction in the lips, cheilitis, from exposure to the sunlight It is difficult or impossible to overcome if exposure of the lips cannot be avoided, as is usually the case The use on the lips of a thick paste, made skin color with zinc oxid and calamine (or "crocus martis") as coloring would offer pro-

tection against the sun's rays, and if used persistently and frequently might be a great benefit When the patient is, as this one, a man, he might raise a walrus mustache, provided his mustache is heavy, which would give great protection from sunlight

PYROGALLIC ACID AS HAIR DYE

To the Editor —Is pyrogallic acid in a 2 per cent solution a safe hair dye for brown hair that is prematurely gray? A young woman in my practice comes to me with this question and I am unable to answer her If the pyrogallic acid is no good, kindly suggest something better Please omit my name SUBSCRIBER

ANSWER —Pyrogallic acid is not an entirely safe application as a hair dye It sometimes causes dermatitis, and poisoning has been observed from it It is usually used in combination with silver nitrate Probably as good a dye as any is paraphenylendiamin, which is the usual dye used for dyeing hair and furs brown or black This also, in susceptible persons, causes dermatitis, but not frequently There is no hair dye that is free from all risk

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA Montgomery July 11 Chairman, Dr Samuel W Welch Montgomery

CONNECTICUT Hartford July 11 12 Sec, Reg Bd Dr Robert L Rowley 79 Elm St Hartford

CONNECTICUT New Haven July 11 Sec Eclec Bd Dr James Edwin Hair 730 State St Bridgeport Sec Homeo Bd Dr Edwin C M Hall 82 Grand Ave, New Haven

DISTRICT OF COLUMBIA Washington July 11 Sec Dr Edgar P Copeland, Stoneleigh Court Washington

HAWAII Honolulu July 10 Sec Dr G C Milnor 401 Beretania St Honolulu

INDIANA Indianapolis July 11 13 Sec Dr W T Gott State House Indianapolis

MASSACHUSETTS Boston, July 11 13 Sec Dr Samuel H Calder wood 144 State House Boston

NEW MEXICO Santa Fe July 10 11 Sec Dr R T McBride Las Cruces

OKLAHOMA Oklahoma City July 11 12 Sec Dr J M Byrum Shawnee

PENNSYLVANIA Philadelphia and Pittsburgh July 11 Sec Mr Thomas E Finnegan State Capitol, Harrisburg

SOUTH DAKOTA Waubay, July 18 Director Dr H R Kenaston Bonesteel

WASHINGTON Olympia July 11 Sec Mr William Melville Olympia

WEST VIRGINIA Martinsburg July 11 State Health Commissioner Dr W T Henshaw Charleston

Wisconsin January Examination

Dr John M Dodd, secretary, Wisconsin State Board of Medical Examiners, reports the oral, written and practical examination held at Madison, Jan 10-12, 1922 The examination covered 19 subjects and included 100 questions An average of 75 per cent was required to pass Of the 17 candidates examined, 14, including 1 osteopath, passed, and 3, including 1 osteopath, failed Twelve candidates were licensed by reciprocity, and 1 candidate received an osteopathic license by reciprocity Six candidates were licensed on government credentials The following colleges were represented

PASSED College			Year Grad		Per Cent
Chicago College of Medicine and Surgery			(1912)		80
Northwestern University			(1922)		86
Rush Medical College	(1906)	85	(1921)		91
Harvard University			(1921)	87	89
Tufts College Medical School			(1920)		86
Washington University			(1921)	80 85	88
Columbia University			(1920)		91
Marquette University			(1905)		78
University of Vienna			(1903)*		81
Osteopath					85
FAILED					
Loyola University			(1917)†		81
Marquette University			(1922)†		86
Osteopath					58

LICENSED BY RECIPROCITY College	Year Grad	Reciprocity with
Denver and Gross College of Medicine	(1909)	New York
Loyola University	(1921)	Illinois
Northwestern University	(1921, 2)	Illinois
Rush Medical College (1916) Minnesota (1919)	(1921 4)	Illinois
Keokuk Medical College, Coll of Phys and Surgs	(1902)	Illinois
University of Louisville Medical Dept	(1910)	Kentucky
Osteopath		Missouri

ENDORSEMENT OF CREDENTIALS College	Year Grad	Endorsement with
College of Physicians and Surgeons Chicago	(1903)	U S Army
Northwestern University	(1908)	U S Army
Rush Medical College	(1905)	U S Army
Fordham University	(1916)	U S Army
University of Texas	(1913)	U S Army
Medical College of Virginia	(1886)	U S Army

* Graduation not verified
† Fell below 60 per cent in one branch

Alaska March Examination

Dr Harry C DeVighne, secretary, Alaska Territorial Medical Examining Board, reports the written examination held at Juneau March 7, 1922 The examination covered 9 subjects and included 100 questions An average of 75 per cent was required to pass Two candidates were examined, both of whom passed The following colleges were represented

PASSED College	Year Grad	Per Cent.
University of Louisville	(1907)	86
University of Toronto	(1918)	90

Ohio Reciprocity Meeting

Dr H M Platter, secretary, Ohio State Medical Board reports that 19 candidates were licensed by reciprocity at the meeting held April 4, 1922 The following colleges were represented

LICENSED BY RECIPROCITY College		Year Grad	Reciprocity with
University of Colorado		(1914)	Colorado
Illinois Medical College		(1905)	Alabama
Rush Medical College	(1884) Kansas	(1917)	New York
University of Louisville Medical Department		(1917)	Kentucky
Johns Hopkins University	(1907)	(1912)	Maryland
University of Michigan Homeopathic Medical College		(1921)	Michigan
Washington University		(1911)	Missouri
Syracuse University		(1917)	New York
Eclectic Medical College		(1915)	Nebraska
University of Cincinnati		(1916)	Kentucky
Jefferson Medical College		(1895)	Penna
University of Pennsylvania	(1917) New York		Pennsylvania
Meharry Medical College	(1913) Alabama	(1918)	Arkansas
University of the South Medical Department		(1908)	Washington
Laval University		(1891)	Michigan

Porto Rico April Examination

Dr M Quevedo Baez, secretary, Porto Rico Board of Examiners, reports the written and practical examination, held at San Juan, April 4, 1922 The examination covered 9 subjects and included 75 questions An average of 75 per cent was required to pass Two candidates were examined, both of whom passed The following colleges were represented

PASSED College	Year Grad	Per Cent
State University of Iowa College of Homeopathic Med	(1919)	77 1
University of Maryland	(1920)	87 5

Nevada May Examination

Dr Simeon L Lee, secretary, Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 1, 1922 The examination covered 13 subjects and included 100 questions An average of 75 per cent was required to pass Of the 6 candidates examined, 5 passed and 1 failed One candidate was licensed by reciprocity The following colleges were represented

PASSED College	Year Grad	Per Cent
College of Physicians and Surgeons San Francisco	(1918)	83 3
Oakland College of Medicine and Surgery	(1920)	82 7
Kansas City University of Physicians and Surgeons	(1922)	75
Cornell University	(1920)	95 4
Ohio State University College of Medicine	(1920)	84 4
FAILED		
Chiba Special Medical School	(1905)*	69 3

LICENSED BY RECIPROCITY College	Year Grad	Reciprocity with
Saginaw Valley Medical College	(1903)	Michigan

Graduation not verified

Miscellany

A GERMAN VISITOR'S IMPRESSIONS OF AMERICAN MEDICINE

Dr Hans Holfelder (*Klinische Wochenschrift* **1** 531 [March 11] 1922) gives an account of his visit to the United States a few months ago During his first short stay in Buffalo he was soon convinced of the efficacy of buried radium emanation in the treatment of malignant tumors, particularly cancer of the tongue and primary carcinoma of the rectum, whereas in metastases and recurrences it could not be used Just the opposite is true of the German method of roentgenotherapy He considers radium emanation as adapted only to primary tumors of the mucosa

In giving his impressions of American hospitals, Holfelder brings out the fact that they usually do not have *Chefarzte* (chief or head physicians) as in Germany but are open-staff hospitals in which a considerable group of physicians and surgeons work side by side He thinks that with America's vast wealth it would be destined soon to assume an unquestioned position at the head of the medical science of the world if it were not for the peculiar organization of the hospitals which not only militates against a uniform and systematic instruction of interns and assistant physicians and surgeons but also makes genuine research work more difficult The trouble seems to be that in the open-staff hospitals the interns are the assistants of from ten to twenty different physicians who belong to the staff of the hospital and that for this reason, they do not come under the influence of any particular school In some large cities, such as New York, the staff undergoes frequent changes throughout the year, which deprives the interns of the opportunity of continuous and systematic instruction The intern is responsible for the care of certain wards in which a large number of physicians treat their patients in a promiscuous manner Today the intern comes in contact with one physician and tomorrow with another, so that there is not the necessary continuity in the instruction he receives Another thing that makes this condition worse is the unevenness' which is characteristic of American universities and medical schools owing to the fact that they are not under state control However the classification of medical colleges as A, B and C schools has done a great deal toward remedying the unevenness of medical instruction, and will doubtless accomplish still more in the future Whereas the absolutely free competition that has prevailed in the past has been conducive to a high ethical tone, he sees in the operation of the Volstead act a grave menace to the morale of American physicians

He thinks the Ford Hospital at Detroit the most luxuriously appointed hospital he has ever seen, and as for cleanliness one could perform without hesitation an aseptic operation even in the furnace room However it seemed to him that the use of machinery to replace manual labor had been carried to extremes, and that the patients would be better off if the physicians were allowed more individual freedom

Holfelder referred to the recent endeavor of the Rockefeller Foundation to have the heads of departments receive adequate salaries but be deprived of the right to keep up their private practice He does not think that such a policy will lead to the desired goal, since most eminent clinical professors will prefer to renounce their professorial duties rather than their private practice It would also seem to involve a great risk for the character of the instruction if a professor is deprived entirely of the personal contact with patients, which has such a stimulative effect on clinical instruction

Holfelder noted that the results of laboratory tests play a much greater role for diagnosis and therapeutic indications than is the case in Germany The methods of performing laboratory tests have been so simplified that it has become possible to utilize them on a large scale, but he thinks it would be well for Germany to adopt certain features of American laboratory methods However, he fears that one result of such extensive application of laboratory tests has been that the clinical examination of the patient has sometimes been relegated to the background to such an extent as to prove harmful to the patient Especially does this seem to be true in the case of physicians who have not enjoyed the advantage of the first-class medical schools This condition will be improved when all medical schools have been brought up to the high standard of the best In regard to the claim that in a large percentage of cases, rheumatic symptoms can be traced to a focus of infection in the teeth or mouth Holfelder is somewhat skeptical He admits that the relationship between a focus of infection in the mouth and rheumatic pains in some distant organ may not have received in Germany the attention it deserves, but he feels equally sure that such a relationship is being assumed in America much more frequently than the facts will warrant

He was much impressed with the system of blood transfusion as practiced in America, and especially with the organization of details so that in an emergency case only ten minutes was required to have a donor of the proper blood group on hand ready to furnish up to 1,000 c c of his blood While he feels that many lives are thus saved, there may be a tendency to overdo the matter

CHILDREN OF WAGE-EARNING MOTHERS

A report of the U S Department of Labor entitled 'Children of Wage-Earning Mothers A Study of a Selected Group in Chicago," states that gainful employment of mothers of young children frequently means that the children receive inadequate care during the day The report presents the results of a study of 843 families of working mothers in which were 2066 children under the age of 14 years This included 212 colored families The forty-five day nurseries in Chicago were not maintaining high standards with respect to sanitation and child care, and only two nurseries with a capacity of twenty each, were available to colored children Retarded school progress of the children overfatigue and ill health of the mothers with consequent loss to the children and in some instances overwork by children who had the responsibility for household tasks beyond their strength, were other conditions found More than one third were found below the standard grade for their age in the schools Measures will be taken for reducing the necessity for wage earning by mothers of young children These measures will include an improvement of economic conditions that will make the fathers' earnings more nearly adequate, training of mothers in household management and the care of children preserving the normal family group through movements for the prevention of accidents and the promotion of health and providing substitutes for the father's support, at his death or when he is incapacitated by means of mothers pensions and aid from social agencies

THE RELATION OF GAS POISONING TO TUBERCULOSIS

Ex soldiers who were exposed to poisonous gases during the World War have been led to believe that they are likely to develop tuberculosis as a result of such exposure Hence, although in good health they are constantly watching for symptoms of consumption Neither fact nor sound opinion affords any basis apparently for this fear An investigation of this subject was made by the Chemical Warfare Service and the results have been published The investigation covered experiments with mustard gas and phosgen on laboratory animals a study of 2000 gas cases by a board of officers, the views of many officers of large experience in treating gassed soldiers and a study of the reports of several European countries

It was stated in the British report that tuberculosis does not develop more frequently in gas victims than in other subjects" A similar view was held by the French, who said, "Judging from experience, it does not seem that lung lesions

caused by gassing predispose to tuberculosis" The Germans reported that their "physicians unanimously agree that gassing has no connection with tuberculosis"

The Chemical Warfare Service concluded its investigation by saying 'It is far from convincing that gas played any particular role in this connection, and it is doubtful if the incidence of lung tuberculosis among ex-service men is much greater by reason of the part that gas played Those who claim to have developed tuberculosis a year after leaving the service, from conditions experienced in the army, certainly have no basis for such assertion They probably would have become tuberculosis patients even if they had never been in the army There are two elements entering into this problem—one neurasthenic, where the men were gassed, usually very slightly, and believed sincerely that this was a factor in their illness, and second, mistaken diagnosis in many cases, especially those following influenza, in which instances of unresolved bronchopneumonia occurred leaving nodular patches on which the diagnosis of tuberculosis was frequently based on roentgen-ray plates"

Book Notices

VÆ INVENTORIBUS MAGNIS Por el Dr Angel Pulido Fernandez V Presidente del R C de Sanidad Academico Paper Pp 524 with illustrations Barcelona Imp La Renaixensa 1921

PRECURSOR REPRESENTATIVO Y MÁRTIR Por el Dr Angel Pulido Fernandez V Presidente del R C de Sanidad Academico Paper Pp 496 with illustrations Madrid Imprenta del Instituto Nacional de Sordomudos y de Ciegos 1921

These two books by the venerable president of the superior board of health of Spain, are an eloquent disproof of the old saying that no man is a prophet in his own country Both, printed at the expense of the government, take up most minutely, perhaps too much so, the achievements of Dr Jaime Ferran the scientist, whom the author calls a pioneer in many remarkable medical advances In fact, Dr Pulido aims to prove that the whole fabric of modern vaccination, both preventive and curative, has its origin in Ferran's anticholera work in 1885 The first book goes in detail into the cholera epidemic in 1885, Ferran's discovery of vaccination as a prophylactic, the attacks made on anticholera vaccination and typhoid inoculation (also introduced by the Spanish bacteriologist before Wright), the unfavorable reports made at the time by the French and Spanish Commission, Cajal's scornful attitude toward the new method, the favorable change in foreign opinion as represented by Klemperer, Guttmann, Roux, Metchnikoff, Calmette and Ehrlich, and finally what he calls Ferran's martyrdom, i e the neglect toward the investigator, who was even expelled from his position as head of the municipal laboratory of Barcelona, although this apparently was due to poor administrative methods on Ferran's part The second book deals especially with Ferran's present theory of tuberculosis and the trial of his antialpha vaccination in Palma de Mallorca and elsewhere No one could read these well written if prolix books without a feeling of admiration for their gifted author or respect at the sense of duty which impelled him, at the age of 69, following recovery from a serious disease, to devote all his energies to Ferran's defense and panegyric After wading, however, through 1 020 pages filled with encomium satire, literary quotations, attacks on Cajal, reports and speeches, and lacking in actual statistics, one cannot escape the conviction that the story would have gained by being told more concisely and systematically, that Ferran s own peculiarities and lack of business acumen may have had a great deal to do with his tribulations, that his theory may have been better than his practice, that Cajal's reservations may have been only too well founded and that after all Ferran s conception of the duality of the tubercle bacillus is still *sub judice* Why make a martyr out of a man who has found thousands of people to submit to his antituberculous inoculations, has his own laboratory, plenty of patients a number of followers in South America who call him master, has just been given 50,000 pesetas by the government for his antituberculosis work and, above all, has such an able and earnest advocate as Dr Pulido to sing his praises in two thick volumes published by the Spanish government?

DISEASES OF WOMEN By Ten Teachers Under the direction of Comyns Berkeley M D M C Obstetric and Gynaecological Surgeon to the Middlesex Hospital Edited by Comyns Berkeley H Russell Andrews and J S Fairbairn Second edition Cloth Price $10 net Pp 641 with 223 illustrations New York Longmans Green & Co, 1922

A book written by several men in collaboration rarely exhibits unity of purpose or sustained excellence For this reason one will be agreeably surprised to find how rigorously in this book the individuality of the authors has been subordinated to scholarly production At the same time the mechanical workmanship has not been neglected The plates and illustrations are informative, and the index is a joy in its meticulous execution The order of the subjects is excellent and the text is consistent, logical and clear The book is written from the standpoint of the ideal surgeon who is not only openminded but also broad through a mature familiarity with all available resources of our profession It is a pleasure to come across a treatise which is not disfigured by dogmatism, useless verbiage or futile speculation over exploded or undeveloped hypotheses Though many of us would be gratified by a somewhat more elaborate and detailed description of the operative technic, it is remarkable how adequately this section has been covered in the allotted fifty pages It would seem to show that ordinarily much space is wasted in duplication or verbosity The portion devoted to infections has also been stripped to the bone and yet the theme advances with marvelously little sacrifice of important matter A novel and valuable feature is the inclusion of the chapters on appendicitis and acute conditions of the abdomen as definite gynecologic maladies rather than as complications of more generally recognized conditions The pathology in these cases is so obviously intertwined with the pelvic disorders that we wonder why they have not been admitted heretofore into a frank fellowship In an effort to imitate the authors in the clarity and succinctness of their style, we may say that the book is a masterly condensation of the principles and practice of modern gynecology, an invaluable compendium for both the student and the practitioner

GRUNDRISS DER KLINISCHEN THERAPIE INNERER KRANKHEITEN Von Prof Dr Georg Klemperer Direktor der IV medizinischen Universitätsklinik Arztl Unter Mitwirkung von Oberarzt Dr L Dunner Paper Price 108 marks Pp 237 Berlin Urban & Schwarzenberg 1922

Only a clinician of the widest bedside experience could have written such a book as this The volume is based on the assumption that the first element in therapy is correct diagnosis, and the book is intended only for those capable of making correct diagnoses Throughout it stresses the necessity of attention to the details of the individual case, for all patients, no matter what the disease the mind must be kept at rest, the surroundings agreeable and composed, the food appetizing It is really interestingly written which is saying a great deal for a book of therapeutic opinions One notes certain omissions for instance, the absence of a discussion of protein sensitization in bronchial asthma and its therapeutic indications The casual remark on serum therapy in pneumonia leaves one in much doubt To those American readers who are accustomed to consider the treatment of gastric ulcer as possible along only one royal road, we particularly commend Klemperer's interesting discussion The treatment of diabetes mellitus used for a long time by Klemperer will evoke a sympathetic response in the followers of the new slogan, 'low protein, high fat'

A PSYCHIATRIC MILESTONE Bloomingdale Hospital Centenary 1821 1921 Cloth Pp 220 with 6 illustrations New York The Society of the New York Hospital 1921

This volume printed in 1921, marks the hundredth anniversary of the Bloomingdale Hospital and Asylum It includes an historical review and addresses by a number of noted neurologists who took part in the anniversary celebration

Medicolegal

Disability from Typhoid Fever Caused by Drinking Polluted Water

(Hasmuth Endicott Co Karst (Ind) 133 N E R 609)

The Appellate Court of Indiana, in affirming an award of the industrial board, under the workmen's compensation act, in favor of plaintiff Karst, says that there was substantial evidence tending to establish that he was in the employ of the defendant company in its factory, where drinking water was furnished from a well, through pipes, it being pumped by stream, and flowing constantly during working hours Without the company's knowledge, the water became contaminated by seepage from a toilet in the factory The plaintiff used the water for drinking purposes, without knowledge of such pollution, and became infected with typhoid germs, by reason of which he had an attack of typhoid fever On this evidence the industrial board found that he received a personal injury by accident arising out of and in the course of his employment

This court, in determining questions of liability under the workmen s compensation act, has adopted the definition that an accident is any unlooked-for mishap or untoward event not expected or designed" Applying this definition, it is clear that the entering of typhoid germs into the plaintiff's intestines, by reason of his drinking the polluted water furnished him by the company for that purpose while in its employ, might rightfully be termed an 'accident" The next question was as to when the injury could be said to have occurred It has been said that in common speech, the word "injury," as applied to a personal injury to a human being, includes whatever lesion or change in any part of the system produces harm or pain or a lessened facility of the natural use of any bodily activity or capability When that definition is applied to the facts of this case, it is not difficult to determine when the injury resulting from the accident in question occurred It is well known that typhoid fever is due to a specific micro-organism, known as the typhoid bacillus The bacillus sets up a catarrhal inflammation of the mucous membrane of the intestines causing ulcers and fever When this occurs, the victim evidently sustains an injury The typhoid bacillus, when taken into the intestines, does not always create a catarrhal inflammation If it does not, no fever follows, and no injury is sustained In this case however such an inflammation occurred, with resulting fever, constituting an injury within the meaning of the workmen's compensation act

Nor can it be said that the decision in this case is not in harmony with the limitation of the Indiana statute that "'injury' and 'personal injury' shall mean only injury by accident arising out of and in the course of the employment and shall not include a disease in any form except as it shall result from the injury" It is obvious that, in any given case involving disability so resulting, the inquiry must always be, Did the disease result from an injury by accident, arising out of and in the course of the employment? The injury, however need not be produced by violence as the Indiana statute unlike the statutes of some other states does not so provide It suffices in that regard whatever the accident may have been, if it produces a lesion or change in any part of the system which injuriously affects any bodily activity or capability When this occurs, and disease follows causing disability, the right to compensation is not affected by the statutory limitation quoted But it must be borne in mind that the injury must be by accident arising out of and in the course of the employment This limitation alone will have the effect of preventing a recovery of compensation for disability resulting from diseases generally, as it is clear that a disease contracted by an employee through such usual intercourse with his fellow workmen as is common among men and not because of any unusual circumstances connected with his employment, cannot be said to be an accident within the meaning of the workmen's compensation act The fact that the accident involved in this case occurred while the plaintiff was engaged in quenching his thirst, rather than in the actual performance of some duty which he owed the defendant under his employment, was not a matter of controlling importance, as it is recognized that such acts as are necessary to the life, comfort, and convenience of the workman while at work, though personal to himself, and not technically acts of service, are incidental to the service, and an accident occurring in the performance of such acts is deemed to have arisen out of the employment

Power to Quarantine Typhoid Carriers

(People ex rel Barmore v Robertson et al (Ill) 134 N E R 815)

The Supreme Court of Illinois, in remanding the relatrix to the custody of the respondents says that the latter were the commissioner of health and an epidemiologist of the department of health of the city of Chicago, from whose alleged unlawful restraint of her liberty at her home as a typhoid carrier the relatrix sought release through habeas corpus She had been keeping roomers and boarders when information came to the department of health that several persons who had previously roomed and boarded at her house had been ill with typhoid fever She submitted to the department specimens of feces, an examination of which revealed large numbers of typhoid bacilli, but she testified that she had never been sick with typhoid fever, that no member of her family and no boarder or roomer had ever been sick with typhoid fever while living with her and that so far as she knew no one had contracted the disease by contact with her The department of health placed her and her house under quarantine, placing a large placard on the house warning all persons that a typhoid carrier resided in the house The quarantine regulations prescribed required her to remain in her home and forbade her to prepare food for any one but her husband, and forbade any one to come into her home as roomers or otherwise, unless they had been immunized from typhoid fever

It is not necessary that one be actually sick as that term is usually applied, in order that the health authorities may have the right to restrain his liberties by quarantine regulations Quarantine is not a cure, it is a preventive As the term is used in this opinion, quarantine is the method used to confine the disease within the person in whom it is detected or to prevent a healthy person from contracting the infection Disease germs do not usually travel through the air unaided but they are carried by insects by dumb animals and by human beings Effective quarantine must therefore be not so much the isolation of the person who is sick or affected with the disease as a prevention of the communication of the disease germs from the sick to the well Thus in the case of typhoid fever, effective quarantine must include very strict restrictions on the movements of the attendants who in any way come in contact with the sick person or his discharges It must include the destruction of the bacilli in the feces and the urine and in the cloths used to wipe the mouth of the patient Quarantine in the very nature of the regulation, is not a definite uniform measure, but it must vary according to the subject One of the important elements in the administration of health and quarantine regulations is a full measure of common sense

In the case at bar the state board of health, or a board of health in the city of Chicago duly organized pursuant to the authority given the city council by the legislature, would undoubtedly have the right to establish reasonable quarantine regulations with respect to the relatrix, so long as she was discharging the germs of a contagious and infectious disease Whether the authority exists to compel a person apparently well to submit to an examination to determine whether he is a germ carrier was not before this court for the reason that the relatrix submitted to the examination which revealed that she was such a carrier The only question presented for determination was whether she was legally and properly detained under quarantine in her home The statute gives to no such individual as the health commissioner of Chicago authority to make rules and regulations which shall have the effect of law, and the city has no right to give him authority to determine when a contagious and infectious disease exists and to establish a quarantine His

authority is limited to carrying into execution orders of a legally constituted board of health But the department of health of Chicago reported the case of the relatrix to the state department of health, and requested that department to authorize a modified quarantine, which authority was granted, so that the respondents were restraining the relatrix as agents of the state department She was bound to respect the rules and regulations promulgated by the state department of health respecting the modified quarantine under which she was placed, and for a violation of these rules she was subject to the penalties provided by the statutes In order that she might know what the rules and regulations were, it was necessary that she be furnished a copy of them

Sufficient Authority and Statement for Services

(Dalton v St Louis & S W Ry Co (Mo) 238 S W R 525)

The Springfield (Mo) Court of Appeals in affirming a judgment against the defendant railway company for services rendered by the plaintiff as a physician to one Monigold, says that Monigold was found on the right of way of the defendant with one foot and leg badly crushed No one saw the accident, but it was inferred that the injury was caused by a passing train The station agent called the plaintiff over the telephone and asked him to attend Monigold The plaintiff went, and found the man loaded in a wagon to be taken to his office The plaintiff was at that time, and afterward, told by the assistant claim agent of the defendant to treat Monigold and in pursuance with that direction as well as the call from the station agent, he performed the service which was the basis of this action The leg was amputated below the knee, with the assistance of the defendant's regular physician who was out of town when the plaintiff was called After the amputation, the patient was taken in charge by the defendant's physician, but the plaintiff continued in consultation with him until the patient recovered The plaintiff filed this statement before a justice of the peace

March 9 1920

St Louis & Southwestern Ry Co to Dr George Dalton Dr
March 9 1920 To professional services rendered as per request on J W Monigold $200 00

The sufficiency of the statement was challenged by the defendant The test of its sufficiency was Did it notify the defendant with reasonable certainty of the nature of the cause of action it was required to meet, and would it bar another action on account of the same subject matter? Measured by this standard, the court thinks the statement was sufficient

The next contention was that there was no evidence that either the station agent or the assistant claim agent had authority to employ the plaintiff, and thereby bind the defendant, and that the employment itself did not constitute a binding contract If the employment was authorized the law would imply a promise to pay the reasonable value of the services rendered, in the absence of an agreement as to the price to be paid The station agent testified that he had authority to employ a physician in an emergency to attend passengers or employees, and that was the only evidence relating to his authority, while there was no evidence that the injured man was either a passenger or an employee, so that the evidence did fail to show authority in the station agent to make the employment But the evidence as to what the station agent did was competent to show how the plaintiff was induced to begin the service to the injured man in connection with what he testified took place immediately thereafter between him and the assistant claim agent The assistant claim agent testified that his business was to investigate the facts when injuries occurred, and that he had no specific instructions as to what to do in relation to employing physicians, but that he used his own judgment in emergency cases This in connection with what he did in this case, was sufficient to take the case to the jury on the question of his authority to act for the defendant in the emergency under which the plaintiff was employed by him in this case In short, the court does not think that there was any evidence that the station agent had authority to employ the plaintiff to attend Monigold, that the question of the assistant claim agent's authority was a close one on the testimony, and that the jury must have based their verdict on a finding that the assistant claim agent, and not the station agent, had the authority and did employ the plaintiff

Sale of Practice—Issuance of Prescriptions

(Clabaugh Heibner et al (Mo) 256 S W R 396)

The Kansas City (Mo) Court of Appeals, in reversing a judgment obtained by the plaintiff on a note, says that the note was given as part of the $800 consideration for which the plaintiff, a physician, sold his office fixtures, buggy, practice of medicine and good will thereof, in a stated community, to another physician, who will be called the defendant, the plaintiff agreeing that he would not directly or indirectly enter into or engage in the practice of medicine in the city where he had been located, or the country immediately adjacent thereto, as long as the defendant should be engaged in the practice of medicine in the city in question In a counterclaim, the defendant set up that the plaintiff had violated the agreement, and, on this account, damages were asked, less the amount due on the note The execution of the note being admitted, the burden was on the defendant to establish his counterclaim The plaintiff, who subsequently located in a neighboring city, admitted that after the maturity of the note he had practiced in his old location, and about three weeks after the maturity of the note he wrote to the defendant The practice I have done is practice that refused to employ you" So, the court goes on to say, it was beyond question that the plaintiff did practice medicine in that community in violation of his contract not to do so

It is well settled that contracts of this nature are valid The good will of a business is a species of property, a thing of value which may be bought and sold, and which the law will protect awarding damages for injuries thereto The trial court, however, confined the defendant to evidence of the plaintiff's practice prior to the maturity of the note, and would not allow evidence to be offered as to practice after that date on the theory that the failure to pay the note when due was a breach of contract on the defendant's part which authorized the plaintiff to disregard the provision obligating him to refrain from practice in that community That was error There was no provision in the contract that a failure to pay the note when due would render the terms of the contract void or have any effect thereon The nonpayment of the note when due was merely a default in the payment of that obligation not a breach of the other contract Besides, the failure of the defendant to pay the note when due may have been due to the plaintiff's prior violation of the contract

In addition to evidence of professional visits and practice carried on by the plaintiff in or around the city where he was first located the defendant introduced 120 prescriptions issued by the plaintiff to patients residing in the city in question and within eight miles thereof These prescriptions were filled at a drug store in this city The issuance of prescriptions in which a physician prescribes remedies he deems appropriate for ailments or diseases is practicing medicine. But the question here was, Where was the practice, in issuing such prescriptions, carried on? It would seem that, if patients went to the plaintiff's office in the other city and consulted him and were examined treated or received prescriptions there such acts on the part of the plaintiff would constitute practicing of medicine in the other city, even though the patients in question may have resided in or around the city of his first location and have taken such prescriptions to the latter place where they were filled But if the prescriptions were issued under such circumstances as that, either the giving of the prescriptions, or the consultations with or examination of the patients to whom they were given could be said to have been consummated in or around the city of his first location, then such practice was not in the other city, but within the territory of the contract

Society Proceedings

COMING MEETINGS

Colorado Congress of Ophthalmology and Oto Laryngology, Denver July 28 29 Drs M D Brown and J M Shields Metropolitan Bldg, Denver Secretary
Idaho State Medical Association Wallace July 10 11 Dr E E Laubaugh Overland Bldg Boise Secretary
Montana Medical Association of, Great Falls, July 12 13 Dr E G Balsam, 222 Hart Albin Bldg Billings, Secretary
Utah State Medical Association Salt Lake City Aug 31 Sept 2 Dr W L Rich Boston Bldg Salt Lake City Secretary

SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Forty First Annual Session held at Huron May 16 18 1922

The President, DR G S ADAMS, Yankton, in the Chair

Syphilis in General Practice

DR A A MCLAURIN, Pierre The spirochete has invaded the lymph and blood streams before the primary lesion develops Any lesion of the external genitalia, regardless of its appearance or duration should be considered syphilitic until proved otherwise Caustics applied to these lesions delay the diagnosis and expose the patient to unnecessary danger

Practical Suggestions in Diagnosis and Treatment of Pulmonary Tuberculosis

DR F W WITTICH, Minneapolis The patient should rest for half an hour before and after meals, should take the temperature and pulse before arising in the morning, or, if remaining in bed at 7 30 a m and at 4 and 8 p m, and should remain in bed for at least six weeks or until the temperature and pulse are normal and there is a gain in weight Before taking exercise by walking, he should commence activities by going to the evening meal If the temperature remains normal at 8 p m, he should go to two meals and finally to all three If there is a rise, he is exceeding his exercise and must remain in bed until it remains normal for three days Before walking exercises are begun, he should try to dress himself try sitting in a reclining chair out doors as much as possible and going to meals After doing this for several days without increase in cough or expectoration, and temperature and pulse, he should begin to take fifteen minute walks in the middle of the forenoon He should return to bed or recline in the chair and take the temperature and pulse at once, rest for half an hour, and take them again If they are above normal it means that he is exceeding his exercise He should be weighed each week if possible when on exercise Between the walking exercises he should remain in the open as much as the weather will permit He should go to bed every afternoon after lunch until 4 o'clock Lunches consisting of a glass of milk, buttermilk malted milk and crackers may be taken at 10 30 a m and 4 p m The voice should be rested as much as possible, also the lungs, by avoiding long conversations When the voice is hoarse and the throat sore, he should whisper He should be in bed with the lights out at 9 p m The patient should try to avoid crocheting letter writing, and even reading for at least an hour after the noon meal The cough should be controlled as much as possible, and gauze or a paper napkin held in front of the mouth when coughing These should be placed in a paper bag pinned to the mattress at the head of the bed, and burned each day The dishes should be washed and scalded separately

Relation of Laboratory to Clinical Medicine

DR J C OHLMACHER, Vermilion A few of the things that make for the ideal in group and hospital practice are (1) The union of medical men in the various spheres of medical activity whose paramount interests concern the welfare of the patient and the scientific and ethical advancement of their profession (2) Thorough and up-to-date equipment in clinic and wards (3) An up-to date library (4) Holding weekly or semiweekly conferences at which cases may be discussed, and topics of interest concerning new scientific medical advancements considered (5) Encouragement of clinical and laboratory investigations (6) Establishment of a completely equipped laboratory where all the usual routine and the newer methods of laboratory diagnosis and original research may be carried on under the supervision of a competent pathologist (7) Recording and filing of case histories, including clinical findings, laboratory findings, treatment, necropsy findings, etc, and the publication of papers in reference to cases of special interest, and articles covering clinical and laboratory research or the publication of a yearly or biennial bulletin containing matters of interest or value to the profession There is a great need to standardize laboratory methods Those having charge of laboratories should be licensed by some governing agency capable of raising and maintaining the standard of requirements to such a degree as to weed out all incompetents

Inflammatory Conditions of the Mastoid Process and the Middle Ear

DR A A SORENSEN, Aberdeen There are two common forms of acute middle ear inflammation, in both of which the subjective symptoms may be identical and the indications for treatment very similar The first is that known as acute catarrhal otitis media, generally related to such affections as rhinitis and influenza, to septic hypertrophied adenoid tissue in the nasopharyngeal vault, or to the presence of certain micro-organisms, being commonly an extension of a nasopharyngeal infection through the eustachian tube, and capable of assuming a subacute or even chronic form A second form is acute purulent or suppurative otitis media, which is always of bacterial origin often resulting from the entrance of such organisms as the pneumococcus, staphylococcus streptococcus or influenza bacillus into the tympanic cavity by way of the eustachian tube, where they produce inflammation Such micro organisms are often associated with such a general systemic infection as pneumonia or typhoid or may result from a tonsillitis or septic nasopharyngitis

Recent Developments in Radiotherapy

DR R F BELLAIRE, Sioux City, Iowa Surgery should take precedence over all other forms of treatment unless the case is inoperable then surgery is secondary to the roentgen ray or to radium Deep therapy with the roentgen ray is in a very vital period of transition To kill deep seated growths it is absolutely essential to introduce into the deep structures a 100 per cent dose The ratio between the skin and depth dose must be about equal In certain forms of sarcoma the ratio may be as low as 60 or 80 per cent of the total skin dose For the production of deep lethal doses, tremendously high voltages must be utilized Of all the factors concerned, high voltage is the most indispensable, because voltage determines the force with which the rays are projected into the tissues The higher the voltage, the shorter the wave length, the shorter the wave length, the greater the velocity of the rays If, therefore, sufficient voltage can be generated for the introduction into the deep parts of lethal doses without destroying the overlying skin, we shall have advanced tremendously toward the solution of the cancer problem

Complications of Prostatectomy

DR FRANKLIN R. WRIGHT Minneapolis Complications of prostatectomy naturally divide themselves into three groups those which occur at the operation, those which occur immediately following operation and those which take place during the healing process Those which occur at the time of the operation are the accidental opening of the peritoneum, and hemorrhage This accident is not of serious nature Hemorrhage at the time of operation may be anything from a slight loss of blood to one which threatens the patient s life Troublesome hemorrhage may come from the edge of the bladder mucous membrane where during the enucleation the urethral mucous membrane was torn from it, or may come as a general oozing from the surface of the cavity from which the tumor was enucleated Neither of these two forms is serious The third form of hemorrhage is of serious

nature If, in attempting to enucleate the tumor from the prostate, the prostatic sheath is torn, a venous plexus is torn, and the hemorrhage is alarming The prognosis in these cases is not good We can control hemorrhage, but as virtually all these bladders are septic, the clots which form under the packing in the torn veins become septic, and patients die of general sepsis about the fifth or sixth day Complications immediately following operation are uremia, reflex conditions and infections

Pathogenic Ptosis of Right Colon

DR E P QUAIN, Bismarck, N D Coloptosis is a very common anatomic abnormality Comparatively few coloptotic patients suffer serious symptoms Some of the effects of coloptosis are translated to other abdominal organs which may then give rise to a new set of symptoms based entirely on the complication, and obscuring the original and chief cause Medical treatment gives relief in most cases and should be given thorough trial in all cases, but its ability to cure is doubtful in any case Surgical treatment is as successful in these lesions as in many other so-called surgical diseases and promises better results as experience accumulates

Pyuria in Infancy and Childhood

DR HENRY F HELMHOLZ, Rochester Minn I use the term pyuria rather than pyelocystitis or pyelitis because often pyuria is the only diagnosis permissible from the symptoms and physical findings The pus may be obtained from the vagina, urethra, bladder ureters, pelvis or substance of the kidneys Catheterization merely discloses the presence or absence of inflammation in the bladder or urinary tract above It seems hardly justifiable, in view of the relatively benign course of most infections of the bladder and kidneys to make general use of ureteral catheterization in infants and children Occasionally the tuberculosis bacillus alone may give rise to pyuria, although in the majority of cases the colon bacillus is present as a secondary invader Sometimes cases are observed in which the cultures are sterile and the possibility of a tuberculous infection can be excluded by stains, cultures and animal inoculation, even though there are large amounts of pus in the urine Pyuria may be part of a general pyemic process with numerous abscesses in the cortex or medulla of the kidneys Sometimes these abscesses occur only in the kidneys and give rise to a severe type of pyuria, closely resembling pyelitis and to be distinguished from it only at necropsy Pyuria is virtually always produced by hematogenous infection localizing in the renal cortex and forming abscesses which, on draining into the pelvis, may set up pyelitis A second type of renal involvement is that secondary to the usual pyelitis which, after running a rather chronic course, suddenly becomes extremely acute The process is a pyelonephritis without abscess formation resulting in a complete shut-down of the kidney A third type of disease of the kidney is that associated with the damming back of the urinary flow due to obstruction from any cause, and a localized breakdown of the substance of the kidney into multiple abscesses A fourth type of involvement is ordinary primary pyelitis, which unquestionably is very much more common among girls A fifth type is pyuria secondary to infections other than those in the urinary tract, following tonsillitis, bronchitis otitis and other pyogenic infections This type, usually recognized only by examination of the urine, there being practically no symptoms pointing to involvement of the urinary tract and increased temperature if present is assumed to be due to the primary infection Water is the most important single item in all treatment For infants 1 year old fluid intake should reach from 1½ to 2 quarts every twenty-four hours If necessary, fluids may be given by rectum, or by intraperitoneal subcutaneous and intravenous injection Infants may also be given sodium citrate and sodium bicarbonate, 60 grains in twenty-four hours, the dose may be doubled every forty-eight hours until the urine becomes alkaline. In certain cases hexamethylenamin and acid sodium phosphate may be used Local treatment by ureteral catheterization and pelvic lavage may be tried as a means of last resort

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Boston Medical and Surgical Journal

June 8 1922 **186** No 2

Decreasing Diabetic Mortality Increasing Incidence of Glycosuria E P Joslin Boston —p 761
*Divided Meals for Severe Diabetics H Gray Boston —p 763
*Advantage of Multiple Meals in Treatment of Severe Diabetes T Murayama Boston —p 768

Divided Meals in Diabetes—The theory of divided meals appears to be activation of the liver or pancreas by a small, preliminary meal of carbohydrate given one or two hours before each main meal, the organism being then in action at the time of that regular meal responds to the food load more vigorously than with the everyday three meal schedule The results obtained by Gray indicate that the method does help to lower the blood sugar The method is, therefore advocated by him as having practical value

Multiple Meals in Diabetes—The experiments described by Murayama suggest that the gratifying result obtained in a severe case of diabetes is ascribed to the giving of six split meals but it is possible that the lower carbohydrate fat ratio in the divided meal period may have also been a factor Absolute proof would not be furnished unless the identical diet both in variety and quantity, should be given the same patient as three meals under the same conditions for a definite time. The justification for this paper is rather the fact that such an intractable glycosuria, withstanding many efforts at desugarization, disappeared with the new divided diet

Illinois Medical Journal, Oak Park

June 1922 **41**, No 6

Problem of Medical Parasite C E Humiston Chicago —p 413
Cholecystitis Its Influence on Upper Abdominal Pathology B B Davis Omaha Neb —p 417
Malpractice Suits as They Relate to Medical Profession C U Collins Peoria Ill —p 422
Surgical Treatment of Gastric and Duodenal Ulcer with End Results of Gastro Enterostomy C A Stevens Chicago —p 428
Associated Pathology of Appendicitis T D Moore Chicago —p 431
Practical Perimetry H S Gradle Chicago —p 435
Schick Test and Control of Diphtheria R P Peters, Bloomington Ill —p 439
Interpretation of Gastric Symptoms A A Goldsmith Chicago.—p 441
Occult Disease of Childhood J C Gittings Philadelphia —p 445
*Subcutaneous Rupture of Trachea L H Zeuch Chicago —p 451

Subcutaneous Rupture of Trachea.—To the fifty-three cases recorded in the literature Zeuch adds one case. A boy, aged 7, while playing the game of horseshoes, stumbled over a tricycle lying on its side His neck struck the pedal and on rising his parents noticed a swelling in his neck which was rapidly increasing extending to the face and body The pain was inconsiderable and no external evidence of injury was discernible On examination Zeuch noticed a cushion of air two inches thick extending from the head to the thorax, abdomen and scrotum Every inspiration increased the emphysema and the boy was becoming cyanotic and gasping for air Zeuch made four punctures with a small lance through the skin anteriorly and posteriorly over the thorax A sizzling sound followed, such as the escape of air causes in a small puncture of an automobile inner tube At operation a transverse rent was observed between the second and third cartilage completely across, the segments held only by its muscular coat posteriorly The rent was closed by sutures The boy recovered

Johns Hopkins Hospital Bulletin, Baltimore

May 1922 **33** No 375

Evolution of Human Races in Light of Hormone Theory A Keith London —p 155
Pharmacologic Action of Epinephrin on Sphincter Pylori of Fetus P G Shipley and K. D Blackfan Baltimore —p 159
*Occurrence of Anemia in Rats on Deficient Diets W M Happ Baltimore —p 163

*Significance of Influenza Bacilli A L Bloomfield Baltimore—p 172
*Intercolumnar Tubercle in Undescribed Area in Anterior Wall of Third Ventricle T J Putnam, Baltimore—p 181
*Pseudomyxoma Peritonei E Novak Baltimore—p 182
*Histamin as an Inflammatory Agent W Bloom, Baltimore—p 185
*Treatment of Nonencapsulated Brain Tumors by Extensive Resection of Contiguous Brain Tissue W E Dandy Baltimore—p 188
II Diagnosis Localization and Removal of Tumors of Third Ventricle W L Dandy Baltimore—p 188
III Cerebral Ventriculoscopy W E Dandy Baltimore—p 189
IV An Operation for Removal of Large Pituitary Tumors W E Dandy Baltimore—p 189
V An Operative Procedure for Hydrocephalus W E Dandy Baltimore—p 189
VI Diagnosis and Localization of Spinal Cord Tumors W E Dandy Baltimore—p 190
Spontaneous Labor Occurring Through Obliquely Contracted Kyphotic Funnel Pelvis. J W Williams Baltimore—p 190

Anemia on Deficiency Diets—Happ asserts that well balanced diets deficient in iron, do not produce anemia in the rat in the first generation nor do diets consisting solely of cow's milk or milk and bread. Slight anemia may occur in rats of the second generation on these diets. Diets deficient in fat soluble A or water soluble B, although they cause severe nutritional disturbances do not produce anemia in the rat. Diets so deficient in water soluble B as to produce polyneuritis diminish leukopoietic activity and cause a severe leukopenia with a shift to the right in the Arneth formula. Diets low in an organic substance contained especially in cod liver oil with a low calcium but high phosphorus content which produce rickets-like changes in the rat, may also produce anemia provided the animal is kept for a long period on the diet. Animals of the second generation on this diet may also become anemic. This anemia is associated with evidences of increased hematopoietic activity. There is often an enlargement of the spleen. This condition resembles the anemias seen in association with rickets in human beings. A diet low in the organic substance contained in cod liver oil and low in phosphorus with a normal calcium content, a diet that produces severe rickets with great uniformity, does not produce anemia.

Significance of Influenza Bacilli—The main results of Bloomfield's work may be summarized as follows. In the first place it appears that the general incidence of influenza bacilli in the throats of healthy people has declined greatly since the time of the pandemic, the present figure being comparable to that which existed before the wave of influenza in 1918. Furthermore, there seems to be no striking relationship to the season of the year or to the prevalence of minor respiratory infections. An outstanding feature of the carrier state in the persons observed was its usual relatively brief duration and the absence of evidence in the case of healthy people of localization of influenza bacilli in a localized area of diseased tissue such as the tonsil.

Intercolumnar Tubercle in Third Ventricle—A structure in the anterior wall of the third ventricle of the mammalian brain is described by Putnam which appears to be analogous in many ways with the well known areae postremae of the fourth ventricle. It is a small prominence up to one millimeter in diameter situated between the columns of the fornix, at the level of the upper border of the foramina of Monro, below the juncture of the two lateral choroid plexuses. It is composed of a peculiar loose neuroglia tissue, containing many coarse capillaries, and covered by low ependyma. In the human brain it contains small nerve cells. The adventitia of the capillaries takes up trypan blue and other vital dyes intra vitam. No function can at present be assigned to it. The name intercolumnar tubercle is suggested for this structure.

Pseudomyxoma Peritonei—In the male Novak says pseudomyxoma peritonei nearly always occurs from the rupture of a gelatinous cyst of the appendix. In rare cases it may possibly arise elsewhere e. g. in the retroperitoneal tissues. In the female this condition may be due either to ovarian or to appendiceal disease. Sometimes both ovary and appendix are affected, and it may be difficult to say which is responsible for the peritoneal involvement. In such cases the chemical nature of the secretion may be valuable evidence.

Histamin Not an Inflammatory Agent.—A number of experiments were performed by Bloom to determine the inflammatory inciting and chemotactic properties of histamin. In none of these experiments did histamin produce an inflammatory reaction more marked than that caused by the control experiments. Histamin is indifferent with respect to chemotaxis in vivo and in vitro.

Treatment of Nonencapsulated Brain Tumors—Gliomas comprise probably 80 per cent of brain tumors, they are never encapsulated, some are circumscribed, others infiltrating. The fact that they invariably recurred has rendered operative procedures apparently hopeless. In recent work, however Dandy and his associates have made trial of careful resection en masse of a zone of normal brain tissue with the tumor in the center. They have removed an entire right or left frontal lobe without any observable mental or other after effect. Whole right temporal or right occipital lobes have been removed with only a contralateral homonomous hemianopsia. In two instances, it has been necessary to resect the right temporal lobe and the occipital lobes. Virtually complete resection of one or two lobes of the cerebral hemispheres has been done in about ten instances but partial resection of a lobe with the tumor is frequently all that is necessary. The exact amount of brain tissue which must be removed depends on the position, size and character of the tumor. Partial or even complete resection of lobes of the brain entails very little operative risk. The two largest resections were done when the patients were unconscious and complete recovery followed. Similarly, glioma of the cerebellum can be removed by resecting large portions of the cerebellum. Three times the entire vermis was removed and no symptoms have followed. Two boys 10 years old, are well and working four years after removal of the tumor together with all of the vermis and about half of each lateral lobe of the cerebellum.

Journal of Bacteriology, Baltimore

May 1922 **7**, No 3

Cultural Requirements of Bacteria I J H Mueller New York—p 309
Studies on Cultural Requirements of Bacteria II J H Mueller New York—p 325
Method for Counting Number of Fungi in Soil S A Waksman—p 339
Thermophilic Bacteria I Aerobic Thermophilic Bacteria from Water L E Morrison and F T Tanner Urbana, Ill—p 343
An Apparatus for Rapid Measurement of Surface Tension R G Green Univ of Minn—p 367

Journal of Biological Chemistry, Baltimore

May 1922 **52** No 1

Possible Source of Error in Bell Doisy Method for Determination of Phosphates in Blood Plasma W W Denis and L von Meysenbug New Orleans—p 1
*Chemical Changes of Blood Under Influence of Drugs—I Ether H V Atkinson and Harold N Ets Chicago—p 5
*Occurrence of Creatinin and Creatin in Blood J A Behre and S R Benedict New York City—p 11
Method for Quantitative Estimation of Minute Amounts of Gaseous Oxygen and Its Application to Respiratory Air H F Sheaff Chicago—p 35
Differential Precipitation of Proteins of Colostrum and Method for Determination of Proteins in Colostrum P E Howe Princeton—p 51
Metabolism and Respiratory Exchange in Poultry During Vitamin Starvation and Polyneuritis R J Anderson and W L Kulp Geneva N Y—p 69
Nitrogen Nutrition of Yeast F K Swoboda Chicago—p 91
*Chemical Studies of Intestinal Intoxication I Presence and Significance of Histamin in Obstructed Bowel R W Gerard Chicago—p 111
Utilization of Calcium and Phosphorus of Vegetables by Man N R Blatherwick and M L Long Santa Barbara Calif—p 129
Method of Quantitative Determination of Trypsin Modification of Gross Method Sotara Kai Cincinnati—p 133
Partial Pressure of Oxygen in Blood During Progressively Induced Anoxemia C W Greene Columbia Mo and C H Greene Rochester—p 137
Quantitative Study of Adsorption in Solution and at Interfaces of Sugars Dextrin Starch Gum Arabic and Egg Albumin and Mechanism of Their Action as Emulsifying Agents G L Clark and W V Mann Nashville—p 157
Action of Muscle Tissue on Fumaric Maleic Glutaconic and Malic Acids H D Dakin Sarborough-on Hudson N Y—p 183

Determination of Fatty Acids (and Cholesterol) in Small Amounts of Blood Plasma W R Bloor K F Pelkan and D M Allen Berkeley —p 191
Human Digestion Experiments with Raw White of Egg C G L Wolf Cambridge England —p 207
Nutritional Adequacy of Proteins of Chinese and Georgia Velvet Beans with Reference to Amino Acid Composition D B Jones, A J Finks and H C Waterman Washington —p 209
Colorimetric Method for Determination of Small Amounts of Magnesium F S Hammett and E T Adams Philadelphia —p 211
New Color Reactions of Cholesterol L Kahlenberg Madison —p 217
Synthesis of a Hydroxyisopentacosanic Acid and Its Bearing on the Structure of Cerebronic Acid P A Levene and F A Taylor New York —p 227
*Antiscorbutic Vitamin I Its Solubility from Desiccated Orange Juice E B Hart H Steenbock and S Lepkovsky Madison —p 241
Digestibility of Raw Rice Arrowroot Canna Cassava Taro Tree Fern and Potato Starches C F Langworthy and H J Deuel Jr Washington D C —p 251
Method for Determination of Small Amounts of Lactic Acid S W Clausen St Louis —p 263
*Mineral Metabolism of Milch Cow E B Forbes J A Schulz, C H Hunt A R Winter and R F Remler Wooster Ohio —p 281
Studies of Uric Acid I Examination of Variables in Folin and Wu Uric Acid Method G W Pucher Buffalo —p 317
Id 2 Modification of Folin and Wu Uric Acid Method G W Pucher Buffalo —p 329
Saponin from Agave Lechuguilla Torrey C O Jones L H Chernoff and A Viehoever Washington D C —p 335

Effect of Drugs on Blood Sugar—Atkinson and Ets found that the blood sugar content during ether administration also the hydrogen ion value, is raised and the carbon dioxid capacity of the blood plasma decreased The cause of the rise in the sugar may be related to (*a*) the increase in the hydrogen ion which corresponds to a decrease in the *ph*, and (*b*) the decrease in the carbon dioxid capacity of the blood plasma The fat decreased during the ether narcosis and then showed an after rise above normal The cholesterol and lecithin change very little

Creatin and Creatinin Metabolism—Any theory of creatin and creatinin metabolism, Behre and Benedict hold, must take into account the fact that creatin circulating in the blood appears to be essentially a waste product The view proposed by them attempts to do this, and is the only view so far put forward which takes account of the increased blood creatin after impaired kidney function

Histamin in Obstructed Bowel—Histamin was found by Gerard in the contents of isolated closed loops of the large or small intestine The amount varied in different samples, from 2 to 3 mg of histamin dihydrochlorid per 100 c c of fluid being a fair minimum average A combined histamin derivative is also present in obstruction fluid Evidence is presented that this is of peptid nature The sterile secretion of jejunum contains no histamin Sterile mucosa of the jejunum contains histamin, as does the mucosa of closed loops of the jejunum Histidin is present in loop fluid and mucosa Histamin is carried down in heat and acid coagula of loop fluid, and small amounts may be absorbed in the alcohol precipitate from loop fluid

Calcium and Phosphorus in Vegetables—Data are presented by Blatherwick and Long, which indicate that calcium and phosphorus derived from vegetables are capable of meeting the maintenance needs of man

Antiscorbutic Vitamin in Orange Juice—The antiscorbutic vitamin of desiccated orange juice Hart et al found to be soluble in 80 and 95 per cent and absolute ethyl alcohol It is also soluble in methyl alcohol The investigations of others show that it is also soluble in water, but these experiments do not exclude the influence on solubility of the salts inherent in the material extracted This vitamin of desiccated orange juice was found to be insoluble in butyl alcohol as well as in benzene, petroleum ether, acetone, ether, chloroform and ethyl acetate The behavior of this vitamin toward organic solvents and water indicates that it is not of fat or lipin character

Mineral Metabolism of Milch Cow—The results of the investigation reported on by Forbes et al suggest the desirability of building up extensive mineral reserves in growing heifers by liberal allowance of feeds rich in mineral nutrients and also the importance of a dry, resting period of adequate length to permit the restoration of all previous nutrient overdrafts, with liberal feeding during this period

Journal of Immunology, Baltimore

May 1922 **7**, No 3

Immunologic Studies on Types of Diphtheria Bacilli W H Park A W Williams and A G Mann New York —p 243
*Relationship of Lipoids and Proteins to Serum Reactions in Tuberculosis W R Hodge and M F MacLennan Toronto —p 253
Toxicity of Acids for Leukocytes as Indicated by Tropin Reaction A C Evans Washington D C —p 271

Relation of Lipoids and Proteins to Serum Reactions in Tuberculosis—Evidence is introduced by Hodge and MacLennan which indicates that the fixation bodies in human tuberculous serum are either removed or destroyed by extraction of the dried serum with alcohol, chloroform or ether, and that the substances responsible for the inhibiteur reaction of Calmette are identical with those responsible for the inhibitive reaction of Caulfeild

Journal of Medical Research Boston

April May 1922 **43** No 2

Experimental Production of Macrophages in Circulating Blood M E Simpson San Francisco —p 77
Immunity in Relation to Transplanted Tissue M S Fleisher St Louis —p 145
Cultural Study of Anaerobic Spore Bearing Bacteria with Strains Isolated by Barber Single Cell Technic M C Kahn New York —p 159
Adaptive Changes of Heart Muscle W D Collier Columbia Mo —p 207

Medicine, Baltimore

May 1922 **1** No 1

Therapeutic Use of Digitalis G C Robinson Nashville Tenn —p 1
Treatment of Meningococcus Meningitis K D Blackfan Baltimore —p 139

Nebraska State Medical Journal, Norfolk

June 1922 **7**, No 6

What Surgery Offers in Gallbladder Disease J B Deaver Philadelphia —p 185
Infections Following or Complicating Tonsillectomy and Adenectomy F D Brooks Lincoln Neb —p 190
Field of Operation R W Touts Falls City Neb —p 194
Simulation of Ectopic Pregnancy C H Waters Omaha Neb —p 196
Puerperal Sepsis I T Van Meter Fremont Neb —p 201
*Anthrax Report of Case M G Wohl and J E Pulver Omaha Neb —p 202
Breast Tumors C C Johnson Lincoln Neb —p 204

Anthrax After Shaving—In the case cited by Wohl and Pulver the lesion situated on the right side of the neck, followed shaving The diagnosis was confirmed by cover slide preparations, culture and guinea-pig inoculation The patient was given intramuscular injections of antianthrax serum 10 c c six successive times at four hour intervals The serum was also injected locally around the lesion At the end of three weeks the eschar was removed surgically, and the lesion healed without any complications The patient made a complete recovery

New York Medical Journal and Medical Record

June 7 1922 **115**, No 11

Malignancies of Colon J F Erdmann and R F Carter New York —p 649
Acute Intestinal Obstruction A F R Andresen Brooklyn —p 650
Acute Intussusception T T Thomas Philadelphia —p 656
Fluoroscopy in Diseases of Abdominal Organs A L Holland New York —p 659
Symptom Pain in Diagnosis of Appendicitis P A D'Acierno Weehawken N J —p 663
Cause and Prevention of Gastrojejunal and Jejunal Ulcer A O Wilensky New York —p 668
Dietetic and Treatment Regulations in Gastroduodenal Ulcer A Bassler New York —p 670
Some Difficulties in Diagnosis of Peptic Ulcer A W Hammer Philadelphia —p 672
Acute Perforation of Gastric and Duodenal Ulcer A H Noehren Buffalo N Y —p 674
Problems and Progress of Gastric Ulcer Surgery W Van Hook Chicago —p 678
Recognition and Treatment of Minor Ailments of Digestive System M Einhorn New York —p 681
New Technic for Preparation of Bacillus Acidophilus Milk and Its Therapeutic Value A A Eggston and N P Norman New York —p 683
Radiological Diagnosis of Primary Carcinoma of Ascending Colon with Metastasis to Jejunum I Glassman New York —p 686
Chronic Colitis in Neuropsychiatric Cases J W Visher Twin Falls Idaho —p 688

Importance of Roentgen Ray Localization of Intestinal Tube J Buckstein New York —p 690
Comparison of Successive Aspirates of Gastric Contents B C Lockwood and H J Jacobson, Detroit —p 693
Standardization of Test Meal V Knapp New York —p 695
Fernand Widal M W Thewlis Paris —p 699

Preparation of Bacillus Acidophilus Milk — Eggston and Norman claim to have produced a milk that is white in color, of a nonlumpy consistency, with practically no odor and in which they can regulate the fat content to suit the requirements of the patient The milk can also be made with an acid or slightly sweetish taste This can be done without altering the bacterial count The white acidophilus milk is prepared in the following way One pint of tap water is placed in a liter flask If one wishes a sweet tasting milk, a heaping tablespoonful of lactose is added to the water which is then autoclaved for twenty minutes under twenty-five pounds pressure The water is cooled and a pound tin of unsweetened evaporated milk is added to the flask, observing sterility The mixture is inoculated with 10 c c of a stock culture of Bacillus acidophilus under aseptic technic, shaken and incubated for twenty-four hours at 99 F The curd formed will be soft, white and slightly separated from the whey at the top The flask is shaken to break the curd, refrigerated, and the milk is ready for use The acidity of the milk is controlled by the incubation period—the longer it incubates the more acid it becomes The fat content may also be regulated by varying the amount of water or milk

Ohio State Medical Journal, Columbus

June 1922 **18** No 6

Acute Mastoiditis S S Quittner Cleveland —p 405
Cardiac Arrhythmias and Their Clinical Recognition R S Morris Cincinnati —p 408
Medical Service in Industry C F Ford New York —p 412
Harelip and Cleft Palate C M Clark Akron —p 417
Stem Pessary A F Spurney and P M Spurney Cleveland —p 424
Local Anesthesia Especially in Tonsillectomies C A Campbell Steubenville —p 426
Medical Profession W Teachnor Columbus —p 429

Pennsylvania Medical Journal, Harrisburg

June 1922 **25**, No 9

*Surgical Treatment of Cancer of Large Intestine G W Crile Cleveland —p 599
*Practitioner's Part in Acquiring Knowledge Necessary for Intelligent Interpretation of Atypical Wassermann Reactions S R Haythorn Pittsburgh —p 602
Cytology of Cerebrospinal Fluid J H Whitcraft Wilkinsburg —p 606
*Urea Concentration Test for Kidney Function E Weiss Philadelphia —p 607
*Moss Agate Tracheal Sputum C Jackson Philadelphia —p 613
Spasmophilia J M Higgins Sayre —p 616
Mental Side of Thyroid Hyperthyroidism M H Weinberg Pittsburgh —p 618
Circulatory Efficiency in Cardiac Disease C C Wolferth Philadelphia —p 624
Case of Mercuric Chlorid Poisoning A Ellsworth Warren —p 629
Prevention of Mental Disease A Gordon Philadelphia —p 630

Mortality of Resection of Cancer of Colon —The mortality rate for resection of the large intestine for carcinoma, which has ranged from 15 to 45 per cent, Crile shows has been reduced to 2 plus per cent and cases hitherto considered inoperable have been brought within the range of operability

Value of Wassermann Test —A correlative review made by Haythorn of the clinical and laboratory records of 6387 Wassermann tests made under as nearly constant conditions as possible, indicates that the partially positive or atypically test has a place of distinct value in the diagnosis and the control of the treatment of syphilis

Urea Concentration Test for Kidney Function —Weiss regards the urea concentration test as a simple and fairly reliable method of determining the efficiency of the kidney, but notwithstanding certain theoretic advantages which it possesses over other methods, practically it is not ideal and should, therefore, be considered a useful adjunct test to be employed in conjunction with other methods the whole being weighed with the clinical data in an evaluation of a case of renal disease

Moss Agate Tracheal Sputum in Chronic Tracheitis —Moss agate tracheal sputum is the name given by Jackson to a characteristic secretion seen in cases of chronic tracheitis The characteristics are (*a*) A gray color (*b*) A degree of opalescent translucency (*c*) A dark mottling which gives to the sputum an appearance like a gray moss agate stone (*d*) A more or less globular form of sputum mass (*e*) A tough tenacious consistency sometimes gelatinous (*f*) A tendency, at times, to be projected from the mouth in coughing (*g*) A tendency to accumulate in the larynx, whence it is removed by cough or by semicough (*h*) When it accumulates on the cords it often causes diphonia by creating temporary nodal points (*i*) A scantiness in quantity as compared to the sputum of most bronchial and pulmonary diseases

Circulatory Efficiency in Cardiac Disease —Wolferth asserts that to evaluate the cardiac function, it is necessary to consider how efficiently the circulation performs under the stresses of everyday life as well as special loads The possible effects of disease outside the heart which may influence circulatory function must be weighed It may be misleading to form an opinion of cardiac function based on a single type of test or worse still, on only one of the reactions to such a test In the absence of a satisfactory test, all the available data must be taken into account

Porto Rico Medical Association Bulletin, San Juan

April 30 1922 **16** No 136

Serodiagnosis of Sprue I Gonzalez Martinez —p 51
Medical Sciences in Porto Rico Opening Address M Quevedo Baez —p 58
*The Endocrine Glands in Tropical Pathology L Garcia de Quevedo —p 65
Appendicitis and Sondern's Line of Resistance R del Valle Sarraga —p 70

Laboratory Methods in the Diagnosis of Chronic Tropical Diarrhea —Gonzalez Martinez describes the characteristics of the causal micro organism, the fixation of complement test and its importance and reliability in differential diagnosis, and the brilliant success of vaccine therapy Few diseases have such a solid basis of established facts microbiologic, experimental serologic and therapeutic, which have been accumulated at the Porto Rico Hygiene and Tropical Medicine Institute by Gonzalez Martinez, C Michel and B K Ashford The causal micro organism has been named *Parasaccharomyces ashfordi*

Endocrine Glands and Tropical Pathology —Garcia de Quevedo remarks that well defined diseases of endocrine origin such as Addison's disease, exophthalmic goiter acromegaly etc are rare in Porto Rico On the other hand, abnormal functioning of endocrine glands is a frequent confusing element in tropical pathology Giantism is rare in Porto Rico but dwarf growth is frequent Among the 17,000 drafted men examined for the World War, very few were over 5 feet 10 inches and many failed to reach the army minimum of 5 feet 4 inches

South Carolina Medical Association Journal, Greenville

May 1922 **18** No 5

Symptomatology and Treatment of Certain Types of Chronic Infectious Arthritis E S Cross Baltimore —p 120
Perirenal Abscess with Case Reports J H Taylor Columbia S C —p 128
Ureteral Obstruction L J Ravenel Florence S C —p 134

Tennessee State Medical Association Journal, Nashville

May 1922 **15** No 1

Value of Necropsies B T Terry Nashville —p 39

West Virginia Medical Journal, Huntington

April 1922 **16** No 10

Mental Defectives in West Virginia L V Guthrie —p 375
Case of Hemolytic Streptococcus Septicemia with Some Unusual Clinical Manifestations G E W Hardy Baltimore —p 382
Syphilis of Central Nervous System D V MacGregor Wheeling W Va —p 384
What Are You Going to Do About It? E S Hamilton Oak Hill, W Va —p 391
Management of Nephritis W A. Jenkins Louisville Ky —p 395

Wisconsin Medical Journal, Milwaukee

May 1922 20, No 12

Symposium on Cancer P H McGovern C H. Bunting G V I Brown J L Yates J P McMahon et al Milwaukee.—p 599
Endocrine Staff Meeting A A Skemp La Cross —p 621
Value of Radium in Treatment of Malignant Neoplasms R H Jackson Madison —p. 624

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

Archives of Medical Hydrology, London

May, 1922 No 1

Scientific Foundations of Hydrotherapeutics A Strasser —p 16
Treatment of Circulatory Trouble by Natural Effervescent Baths R Wybauw —p 22
How to Study a Mineral Water at the Present Time A Chasseyant and P Ferreyrolles —p 25
Modern Spectroscopy as Applied to Study of Natural Waters S Judd Lewis —p 33
Physiologic Investigation of Medical Water W Bain —p 36
Spas and Modern Treatment of Diabetes G Monod —p 37

British Medical Journal, London

May 27 1922 **1**, No 3204

*Diagnosis of Hysteria H Head —p 827
Three Years of Pelvic Surgery W E Fothergill —p 830
Some Common Defects of Diet and Their Pathologic Significance E Mellanby —p 831
Interstitial Gland L Williams —p 833
Peptone Treatment A G Auld —p 835
Case of Nonrheumatic Aortic Stenosis in Young Subject W Cordon —p 836
Observations on Two and Half Years Antenatal Work M E Weston —p 837
Axis of Astigmatism and Its Location J Keyms —p 838
Fracture in Osteitis Deformans. J A Smith —p 838
Fracture of Terminal Phalanx of Finger C V Brumbridge —p 838
Hemorrhagic Colitis L F C Norbury —p 839
Elephantiasis of Labium R W Mendelson —p 839

Diagnosis of Hysteria—Speaking of the treatment of hysteria, Head says If possible, the patient should be removed from the usual surroundings and new influences brought to bear An attempt should be made to switch the dissociated part into the continuity of the patient's mental life Every form of persuasion should be exercised to convince the patient that he is able to carry out the action he is convinced to be impossible Never bully him or accuse him of dishonesty No one is a greater failure than the medical officer who wishes all hysterics could be shot at dawn On the other hand, the firm diplomatist with subtle and demonstrable reasons why the patient can stand, walk, or feel, often produces miraculous cures But it must never be forgotten that in a large number of cases, especially in civil life, removal of hysterical symptoms is only a prelude to the discovery of an anxiety neurosis The causes for the suppressed emotion must be investigated, or the patient may be left in an even worse condition than that in which he was found *Do the patient no harm by antitherapeutic suggestion*, carefully prune conversation, and do not think the diagnosis aloud Avoid such words as "neuritis' Some diagnoses, such as 'floating kidney," are more deadly than the disease Avoid thinking in terms of surgery when dealing with functional neuroses At the same time the most brilliant conversation is useless with an hysteric

National Medical Journal of China, Shanghai

March 1922 **8**, No 1

*Trachoma in China T M Li —p 1
Present Status of Cancer Problem J H Liu —p 11
Bacteriologic Diagnosis of Cholera L T H Tsen —p 22.
Present Day Dietary Standards B E Read —p 35
*Importance of Adopting a Uniform Medical Nomenclature C V Yui —p 43
Case of Ovarian Cyst J W H Chun —p 45

Trachoma in China—Li says that trachoma is undoubtedly the greatest single cause of the economic losses that are occurring in China today but it is appalling to find that so much apathy exists concerning a disease which has made millions of people blind and several times that many nearly blind

Uniform Medical Nomenclature in China—Yui reports briefly on the work done thus far by the Scientific Terminology Association The association has been working for seven years on terminology with the result that 10 000 terms are fixed It has the selected terms of old or Japanese translations, and modifications are made if necessary Yui insists that China should have a medical literature of her own She cannot indefinitely depend on foreign languages for instruction Medical science, if taught in Chinese, can permeate the whole of China more quickly and with much greater ease, but only the approved terms should be used, hence the importance of adopting a uniform medical nomenclature

Glasgow Medical Journal

May 1922 97, No 5

Laceration of Cervix Involving Lower Uterine Segment and Fornix. R A. Lennie —p 257
Tay Sachs Disease Symptomatology and Pathology of Three Atypical Cases H W Torrance —p 263
*Herpes and Varicella W M Elliott —p 274
*Unusual Case of Extraperitoneal Abdominal Pregnancy D M Lindsay —p 277

Herpes and Varicella—Out of nine cases of herpes occurring in wards in charge of Elliott, outbreaks of chickenpox followed in five, all within the acknowledged incubation period of the disease, and in none of the outbreaks was any source discoverable—that is to say, no other cases of chickenpox either actual or suspicious, had occurred in the ward and all the patients attacked had been in the ward for a time much over the incubation period In two of the nine cases there appears to be considerable doubt as to the diagnosis of a *septic condition or impetigo* If these two cases are discarded, there emerges the rather striking fact that out of seven occasions on which the patient in a ward developed herpes zoster, unexplainable chickenpox followed in five

Extraperitoneal Abdominal Pregnancy—Lindsay cites the case of a woman of 31, who complained of 'pains back and front and stated that her "waters had broken, Dec. 31, 1919 Inquiry revealed that her menstrual periods were regular and painless and that she had menstruated regularly and normally until June 10, 1919 The breasts were enlarged the nipples pigmented and secretion could readily be expressed The abdomen was prominent the abdominal muscles somewhat taut, and there was a readily palpable mass of the size and consistence and in the position of a four months' pregnant uterus Fetal parts or movements were not palpable and the patient herself had not been conscious of fetal movement Careful auscultation failed to discover sounds of a fetal heart Pieces of decidua were passed and fever developed, irregular, but reaching 104 F February 13 an incision was made in the convex right fornix, releasing a great quantity of foul smelling, brownish, pus streaked fluid Much green gray membranous debris fetal skeletal parts and decomposing fetal soft parts were removed piecemeal with ovum forceps Calculated from the size of *the femora and humeri Lindsay says the fetus must* have been between the fifth and sixth month of intra-uterine life The pus contained streptococci and coliform bacilli also a gram-positive bacillus showing terminal spore formation March 22 a further operation was deemed necessary The urethra was dilated, and more osseous remains were removed from the bladder Despite all efforts at stimulation the patient died There was in this case absence of a history of acute abdominal pain, even of discomfort or of hemorrhage Lindsay says the formation of the vesical fistula prior to operative intervention seems new

International Journal of Psycho-Analysis, London and Vienna

March 1922 **3**, No 1

Manifestations of Female Castration Complex K Abraham —p 1
Pleasure in Sleep and Disturbed Capacity for Sleep M J Eisler —p 30
A Few Don'ts for Beginners in Technic of Psycho Analysis E M Cole —p 43
Symbolism of Appendicitis W H B Stoddart —p 45
Simple Lapsus Linguae C D Daly —p 46
Unconscious Root of Aesthetic Taste S Herbert —p 47
Spermatozoa Phantasy of an Epileptic F P Muller —p 50

Japan Medical World, Tokyo

May 15 1922 2, No 5

Syphilitic Serum Reactions K Tachi —p 126
*Etiology of Beriberi K Ohomori M D Y Ohhashi H Nakamichi M Hara and T Ota —p 128
Experimental Polished Rice Diseases in Human K Taguchi S Hiraishi and I Kwa —p 133

Etiology of Beriberi —Ohomori and his associates performed experiments which show that beriberi is produced in healthy men when they take food deficient in vitamin B Thus it is clearly established that beriberi is avitaminosis Therefore without changing the diet, it may be cured by supplying vitamin B

Beriberi and Human Polished Rice Disease —The beriberi and human polished rice diseases, according to Taguchi et al, are not absolutely the same or identical diseases But from the clinical side the human polished rice disease cannot be distinguished from beriberi If polished rice disease can be considered as avitaminosis the human experiments of polished rice disease give a considerable weight to the theory that beriberi is due to lack of vitamin B

Journal of Neurology and Psychopathology, Bristol

May 1922 2 No 9

*Causalgia and Allied Painful Conditions Due to Lesions of Peripheral Nerves H S Carter —p 1
Inhibition and Excitation in Central Nervous System T G Brown —p 39
*Psychopathology and Theory of Psychopathic (Germinal) Inheritance I D Suttie —p 42
*Treatment of Spastic Paralysis R G Gordon —p 47
Erythromelalgia Causalgia and Allied Condition S Kelly —p 55

Etiology of Causalgia —The fundamental lesion in causalgia and allied conditions, Carter says, is one of intraneural and perineural sclerosis and the irritation thus set up of fibers at the site of injury to the nerve causes perverted afferent impulses to be sent back to the cord, and possibly further to the subcortical and cortical centers and thence efferent responses of vasodilator secretory and trophic natures are reflected to the peripheral distribution of the nerve where reaction on the end organs and sensory corpuscles in this area is interpreted as pain The reason why lesions of this type of the median nerve and internal popliteal fibers produce a true causalgia in some cases, pain of less severity in others, and in the remainder nothing but the discomfort of partial sensory loss, is difficult to answer It is improbable that inflammatory reaction to different groups of organisms provides a solution It hardly seems possible that irritation of a special group of fibers is the cause for causalgia is rare and it is not within the range of probability that such fibers should be so seldom involved The most that can be said is that there is some peculiarity in the trauma of the nerve in these few cases, which causes disturbance of those cells in the brain whose function it is to interpret pain By resection of the irritated and sclerosed portion of nerve the source of the perverted impulses is removed and the pain vanishes and by restoring the continuity of the nerve the path for normal impulses is remade and gradually recovers its conductivity as the nerve regenerates Details of twenty-four cases are given

Theory of Psychopathic Inheritance —Suttie attempts to show that the neuropathologic theory of mental disease is associated with the hypothesis of its hereditary transmission He thinks even that the two lend each other moral' as well as logical support He also indicates that the crucial test of the ultimate validity of psychopathologic interpretation is its ability to account for high familial incidence of the disease form to which it is applied To hazard a tentative judgment on these lines while presuming an agreement on the evidence it might be said that as certain mental syndromes have no typical or integrated psychic aspect but have, on the other hand a demonstrably organic basis, it must be inferred that any hereditary relation is physical and mutatis mutandis where no neural lesion or abnormality is discoverable Thus mental defect is heritable, the psychoses are questionably so with the exception of paranoia, which with the minor and anomalous neuroses are probably acquired

Treatment of Spastic Paralysis —In cases of spastic paraplegia muscles are already hypertonic and further stimulation by electricity or massage, as usually given, will increase their tone and make matters worse A very important point in the treatment of spastic cases according to Gordon is, by the use of proper splints to prevent the weaker muscles being stretched and rendered atonic Contractures are the result of neglecting to apply a light celluloid splint or a leather gaiter So far as active treatment is concerned, it is essential to attempt to induce relaxation of the hypertonic muscles and encourage the action of their opponents

Journal of State Medicine, London

May 1922 30, No 5

Industrial Colonies and Village Settlements for Consumptive P C Varrier Jones —p 185
Surgical Tuberculosis in Children C E M Jones —p 192
Clinical Differences in Course of Tuberculosis Seen in Various Age Groups and Races S L Cummins —p 203
Organization and Conduct of Tuberculosis Dispensary Work W H Dickinson —p 208
Helio-Alpine Treatment of Surgical Tuberculosis A J Morland —p 210

Journal of Tropical Medicine and Hygiene, London

May 1 1922 25, No 9

Dengue vs Malaria R E I Johnson —p 111
*Emetin Treatment for Bilharzia Disease F G Cawston —p 112
Aphiochaeta Xanthina Speiser (A Ferruginea Brun) as an Intestinal Parasite in Gold Coast. A Ingram —p 113

Emetin in Bilharziasis —An experience with more than 300 injections of emetin hydrochlorid given to patients whose urine contained the ova of *Schistosoma hematobium S mansoni* and ova resembling those of *S bovis* Cawston says shows that when the doses are given skilfully and regulated properly this method of treating bilharzia disease is free from undesirable toxic effect, and is permanently successful in eradicating the infection Nevertheless, in view of the difficulty in determining slight cardiac depression due to the large doses required by adults, the emetin treatment should be confined to children and young persons, and careful attention paid to the rate of the pulse throughout Provided undue exertion is avoided, there is no reason for the patient to be treated as a bed patient and moderate exercise is useful in determining when the highest dose the patient can comfortably tolerate is reached

Lancet, London

May 27 1922 1, No 5152

*Alimentary Toxemia in Nervous Disorders T Thompson —p 1031
Syphilis in General Practice D A Power —p 1035
Relation of Thyroid to Female Pelvic Organs C M Wilson and A W Bourne —p 1038
Prognosis in Diabetes Mellitus D M Lyon —p 1043
*Case of Subclavian Aneurysm with Cervical Rib C A Moore —p 1045
Blood Supply of Dentate Nucleus of Cerebellum J L Shellshear —p 1046
*Focal Tenderness in Diagnosis of Gastric Ulcer G Vilvandre —p 1047
Association of Failure of Accommodation with Sore Throat L McMillan —p 1048

Alimentary Toxemia in Nervous Disorders —To prevent the nervous complications of this condition and to avoid infection from the alimentary tract, Thompson states that it is essential first of all to attend to the hygiene of the mouth and associated cavities Regular daily evacuation of the bowels is essential in the majority of people The relation of food ingested to alimentary toxemia is very important The ingestion of large quantities of meat tends to produce excessive fermentation in the intestine The ingestion of carbohydrates, especially sugar favors certain forms of intestinal putrefaction It is probable that diminution of the total bulk of the food is of most value in reducing alimentary toxemia Most people eat far too much and might with advantage make a very considerable diminution in the total amount of food eaten The preparation of food is also most important, all salads and uncooked vegetables should be washed carefully and prepared before being eaten. Milk is a potent source of infection of the alimentary tract, and the utmost endeavor should be made to obtain a pure milk sup-

ply The methods which have been adopted of modifying bacterial contents of the intestine are important The giving of vaccines prepared from the *Bacillus coli* and streptococcus normally found in the feces is strongly condemned If abnormal organisms are found in the feces and definite signs of intestinal poisoning are present, giving a vaccine made from such abnormal microbes is occasionally followed by good results The introduction of lactic acid bacilli into the intestine with a view to diminishing intestinal fermentation has had a long and persistent trial with results not as successful as was at one time hoped Intestinal disinfectants are certainly of use in many cases These may be divided into mercurial preparations, salicylate preparations, and phenol derivatives Of the mercurial preparations, calomel is the most effective, and is best given in small doses of 1/10 grain Of the salicylate preparations, sodium salicylate and phenyl salicylate have proved of value The taking of copious amounts of fluids also seems to have a good effect in cases of alimentary toxemia Lavage of the large intestine has also been of considerable help

Syphilis in General Practice — Power discusses mistakes due to (1) the unlikelihood of infection owing to the social position of the patient or the unusual mode of infection, (2) prolonged latency of symptoms generally in connection with inherited syphilis, as in cases where the patient has no stigmata, has married, and has had healthy children, or, in the acquired disease, where very many years have elapsed since the patient had any signs Under both conditions increasing age or slight injury appears to be the determining cause of the syphilitic manifestation (3) The modifying effect of syphilis on other forms of infective inflammation, whether it be tuberculous, phagedenic, streptococcal or staphylococcal The conclusion arrived at is that syphilis affects a sufficiently large number of the population to make it worth while to bear in mind the possibility of a spirochetal factor in many of the obscure and chronic inflammations which do not respond to the ordinary methods of treatment

Basal Metabolism in Pregnancy — Wilson and Bourne point out that the basal metabolic rate is in the majority of pregnant women, but not in all, raised above that normally found in the nonpregnant woman The basal metabolic rate of different pregnant women at corresponding periods of gestation varies considerably, but they have not found it possible to trace any relation between these variations in the rate and the clinical condition of the mother In some patients, probably the majority, the rise in the basal metabolic rate disappears after delivery, but in a certain number of cases the high rate of pregnancy does not subside after the puerperium, but abnormally persists The suggestion is put forward that in some of the latter cases the excessive thyroid secretion gives rise to a menorrhagia without pelvic signs Additional evidence that a high basal metabolic rate is associated with certain forms of menorrhagia is furnished by a group of cases to which the label functional menorrhagia is attached, to draw attention to the absence of any demonstrable pelvic abnormality The cases comprising this group are resistant to all ordinary medicinal and operative measures, but respond readily when the thyroid gland is exposed to roentgen rays The disappearance of pelvic symptoms is coincident with a fall to the normal of the basal metabolic rate

Prognosis in Diabetes Mellitus — Before treatment is begun a valuable index of the gravity of the disease, Lyon states, is the degree and rapidity of body-wasting that has taken place For practical purposes the best guide to the severity of the condition is the total amount of glucose lost each day in the urine, but this sign, like nearly all others, fails to distinguish between temporary and permanent damage Laboratory tests show that in cases of diabetes a degree of hyperglycemia may still be present even when sugar no longer appears in the urine Mere estimations of the gravity of the disease when the patient is first seen give no sure guide to the future, since some cases, apparently severe, do much better than others whose signs are less marked It is therefore recommended that no definite prognosis be given until the character of the patient's response to treatment has been studied

Subclavian Aneurysm with Cervical Rib — The aneurysm in Moore's case sprang from the front of the artery and not from the part in contact with the rib The presence of a normal radial pulse seemed to indicate that there was no compression of the artery It turned out to be a saccular diverticulum of the size of a cherry, springing from the front of the third part of the artery—itself apparently normal in other respects The wall was thin and the sac could be emptied by compressing it A kangaroo-tendon ligature was placed on either side of the sac The operation was straight forward throughout and almost bloodless Next day the arm was normal except for absence of the radial pulse The circulation differed in no other respect from that of the opposite side and all movements were unimpaired There was a little surgical emphysema of the right chest and face, but none of the left side, and no clinical signs of pneumothorax Recovery was uneventful The radial pulse began to reappear on the fourth day, and the aneurysm could be felt but no longer seen, as a firm nonpulsating mass

Focal Tenderness in Gastric Ulcer — By palpating with one finger along the whole of the lesser curvature from a point nearly as high as the cardia, starting from the infrachondral margin down as far as the pylorus, a test is applied in the roentgen ray diagnosis of gastric ulcer which, in Vilvandre's experience is of great value He terms it focal tenderness Palpation similarly applied along other points of the small curvature elicits no response The more intelligent the patient, the more rapid and definite the response

Archives des Maladies de l'App Digestif, Paris

May 1922 **12**, No 3

*Diverticulum of Esophagus R Bensaude R Gregoire and G Guenaux —p 145

*Tests for Occult Hemorrhage L Pron —p 204

Diverticulum of Esophagus — This profusely illustrated study of diverticuli at the entrance to the esophagus is based on six operative cases While the diverticulum is forming, some slight disturbance in swallowing is usually noted, and signs of irritation in the pharynx, a tickling and dryness, profuse flow of saliva, the hawking up of thick mucus, frequent spasmodic coughing, and the sensation of a foreign body arrested in the throat Nearly all these diverticulum patients had been long taking treatment for the throat, without the least benefit In a few, the onset of disturbance was sudden, after some trauma to the throat Radioscopy shows the recess its filling up from above, the smooth oval outline, and the way in which it follows the movements of swallowing He prefers to draw the tip of the diverticulum up into the incision made at the point of greatest protrusion, and resect with the thermocautery, between two clamps, suturing at once In 109 cases, with all the operative treatment at one sitting, there were twelve deaths, in three there had been septic cellulitis Suppuration occurred in twenty three cases but these complications are growing constantly rarer The esophagus gives a solid suture, and fluid food can be allowed the fourth or fifth day or even earlier Gross allowed it the next day, Jacobs the second day, and Taylor the fourth

Test for Occult Hemorrhage in the Digestive Tract — Pron concludes from his comparative tests of thirteen different methods that only the Boas chloral-alcohol-guaiac method and the modified Adler method are reliable and sufficiently sensitive The Snapper spectroscopic test is sensitive and specific but is only a laboratory method Boas' test is made with 2 c c of a 70 per cent alcoholic solution of chloral, plus 10 drops of acetic acid, the whole agitated several times and allowed to stand for five minutes The mixture is then poured into a dry glass containing a pinch of freshly and finely pulverized guaiac resin To this is added 20 drops of 3 per cent hydrogen peroxid or a pinch of barium peroxid The modified Adler method is to add a pinch of benzidin to a few cubic centimeters of acetic acid, without heating, and then add the hydrogen peroxid By thus preparing the benzidin solution fresh each time, and diluting well, the reaction is reliable

Archives des Maladies du Cœur, Etc, Paris

April, 1922, 15 No 4

*Composition of Human Blood V Bie and P Moller —p 177
Action of Quinidin in Auricular Fibrillation R Wybauw —p 206
Basophil Granulocytes in Effusions J Sabrazes —p 214

Composition of Human Blood—Among the data compiled by Bie and Moller from their research on ten men and ten women is the finding that there is approximately 2 per cent more ash in the blood of men than of women The average number of red corpuscles in normal men ranged from 4,750,000 to 6,333,000, with the extreme limit at 6,500,000 In normal women the range was from 4 000,000 to 4,250,000 and up to 5,250 000, and extreme limit 5,500 000 Men's blood can absorb more oxygen than women's blood This is evidently due to the larger proportion of corpuscles

Archives de Medecine des Enfants, Paris

May 1922 25 No 5

*Ascites from Inherited Syphilis M Acuña and A Casaubon —p 257
Influenza a Pneumonia Suzuki —p 268 Concn Abst 78 1996
Mongolian Blue Spot E Apert —p 295
Pediatrics in Poland J Comby —p 297

Chronic Peritonitis with Effusion in Inherited Syphilis—In this communication from Buenos Aires a case of ascites is described which forms the third on record of chronic peritonitis for which inherited syphilis was evidently responsible The great improvement in all these cases under specific treatment for syphilis confirmed the nature of the ascites The absence of fever and lack of pain and tenderness, with the various signs of inherited syphilis, differentiated the cases especially as inoculation of guinea-pigs showed no signs of tuberculosis

Bulletin de l'Academie de Medecine, Paris

May 23 1922 87, No 21

Paratyphoid Cholecystitis P Menetrier et al —p 559
History of Law of Crossed Paralysis Klippel —p 562
Anatomy of Auriculoventricular Bundle O Josue —p 564

Paratyphoid Cholecystitis—The acute cholecystitis had developed in the man of 58 the tenth hour after eating some canned tongue which had seemed suspicious at the time The paratyphoid A bacillus was agglutinated and was cultivated from the blood The man had recovered in twenty-five days A latent cholelithiasis had evidently helped to localize the toxi-infection in the gallbladder He was a waiter, and one other waiter who had eaten some of the tongue, died within forty-eight hours

Law of Crossed Paralysis—Klippel traces back through Morgagni, Valsalva and Boerhaave to Aretæus the practice of venesection on the sound side in case of unilateral apoplexy Aretæus' exact period is not known but is ascribed to the first century of our era

Journal de Radiologie, Paris

April 1922 6, No 4

Simplified Technic for Recording Chronaxia H Guilleminot —p 157
Electricity in Exophthalmic Goiter M Menard and F Foubert —p 162
Present Uses of Deep Radiotherapy Nadaud —p 171
Deep Radiotherapy of Tonsil Sarcoma Canuyt and Gunsett —p 181
Diaphragmatic Hernia V Nalli and J de Beaujeu —p 184

Continuous Current in Treatment of Exophthalmic Goiter—Menard and Foubert compared the effects of radiotherapy and galvanization in the treatment of exophthalmic goiter, 17 patients were treated by galvanization and 10 by radiotherapy Certain cases refractory to galvanization were improved or cured by radiotherapy and vice versa 57 patients were treated by the two methods and the number of failures was considerably reduced Galvanization is an ideally harmless treatment but this absolute harmlessness they say, does not prevent its positive efficacy, as results show The similarity of the disturbances from exophthalmic goiter with those from pluriglandular and sympathetic derangement, suggested extending the action of the galvanic current to the sympathetic and endocrine systems This abdomen-thyroid-spine galvanization treatment seemed to act on all the manifestations of the disease and subjective symptoms In mild forms the symptoms rapidly subsided, but they advise to continue the sittings for three months

Paris Medical

June 3, 1922 12, No 22

*Infectious Diseases in 1922 Dopter —p 453
*Antityphoid Vaccination by the Mouth Besredka —p 460
Infectious Diseases in Russia in Recent Years Dopter —p 463
*Intestinal Spirochetosis in Dysentery V de Lavergne —p 467
*Fatal Mumps Reverchon Worms and Delater —p 471
*Treatment of Influenza D Simici —p 474
Disease in Celluloid Workers Heim Agasse Lafont and Feil —p 477

Infectious Diseases in 1922—Dopter says that great progress has been realized, since his last annual review, by the practical application of some of the lessons learned in the World War Epidemic encephalitis seems to be losing its epidemic character Levaditi's finding of the virus on the epithelial cells in the saliva suggests that it may be a parasite of these elements Further progress is the apparent identity of the virus of herpes of the cornea and lips with the virus of epidemic encephalitis, the only difference to be detected in rabbits was the lesser degree of virulence Levaditi's research also sustains the assumption of healthy carriers The virus may have an affinity for the epithelial cells but may acquire periodically an affinity for the central nervous system—the difference seems to be only in the degree of virulence of this *ultravirus encephalitogene* When it acquires the affinity for nerve tissue, then we have an epidemic of encephalitis Others dispute these conclusions saying that the virus of herpes does not induce immunity for encephalitis and vice versa In treatment of the complications of gonorrhea, intra-articular injection of gonococcus antiserum has proved far more effectual than the subcutaneous route Sacquepee recently reported a case of gonococcus septicemia persisting for months until cured by four intravenous injections of the specific serum

Typhoid and Paratyphoid Vaccine by the Mouth—Besredka emphasizes the importance of following in vaccination the route taken by the infection in its invasion This is the reason why guinea-pigs can be successfully vaccinated against anthrax by introducing the vaccine directly into the skin, while intraperitoneal vaccination is always disastrous With dysentery typhoid and cholera the mouth is the route of invasion and vaccination should be by the mouth likewise An experiment in this line has just been made on a large scale in northern France by Vaillant, in a region where typhoid is endemic The populace were persuaded to take a pill of bile and a tablet containing a mixture of heat-killed typhoid and paratyphoid bacilli, before breakfast on three successive mornings, children under 7 took it for only two mornings A total of 1 236 of the inhabitants were thus vaccinated out of a total of 2 000 Among the unvaccinated 7 7 per cent contracted typhoid and 2 3 per cent of the 173 who had been vaccinated by the subcutaneous route Of the 1 236 who had taken the *vaccin bilie* by the mouth, only 0 17 per cent developed the disease The results were thus highly encouraging there were no by-effects except slight colic and headache in a few cases, never enough to interfere with business or appetite The resulting immunization is at least equal to that realized by the subcutaneous route This immunization being strictly local that is intestinal does not require the cooperation of any other organ Hence a lesion in the kidneys liver lungs or elsewhere does not interfere with this form of vaccination although it might contraindicate subcutaneous vaccination

Intestinal Spirochetosis with Dysentery—The symbiosis of fusiform bacilli and spirochetes which is found in Vincent's angina has been discovered in the rectum and colon in cases of dysentery and explains many puzzling pathologic conditions

Pathologic Anatomy of Mumps—This article was reviewed in the Paris Letter

Treatment of Influenza—Simici writes from Bucharest to call attention to the encouraging results he has realized in treatment of influenza by subcutaneous injection of convalescents blood

Presse Médicale, Paris

May 10, 1922 **30**, No 37

Intramuscular Treatment of Syphilis E Jeanselme et al —p 397
Radioactivity of Mineral Waters Castelnau and Loisel —p 399
*The Barranikow Dohle Corpuscles H Accoyer —p 401

The Barranikow-Dohle Bodies in the Leukocytes—Accoyer reports on these bodies in 5 cases of scarlet fever, in 2 of measles, 3 of erysipelas, 3 of tonsillitis, 5 of diphtheria and one each of malaria, mumps and typhoid, besides a number of other cases after defervescence and late into convalescence These inclusions were most numerous the more pathologic the condition, regardless of the nature of the infection He compares the theories in regard to their origin

May 13 1922 **30**, No 38

*Intrathoracic Operations. P Duval —p 409
Calcium Salts in Asystolia D Danielopolu et al —p 413

Unilateral Intrathoracic Operations—Duval insists that unilateral surgical pneumothorax is harmless In dogs, there is an open communication between the pleurae, and hence pneumothorax on one side spreads at once to the other side, so both lungs have to collapse But even in dogs, if the opening into the thorax is closed, the dyspnea subsides, and the dog survives The pleurae do not communicate in man or in the rabbit and calf The pneumothorax on one side did not spread to the other side in his experiments on rabbits and calves Hence, he says, Graham's conclusions from research on dogs are erroneous they do not apply to man With surgical pneumothorax, the lung collapses completely and there is no respiration, the air is quiet not flowing in and out, and the pneumothorax causes no disturbance All the various measures applied to relieve dyspnea with pneumothorax aim merely to arrest this inflow and outflow of air The most effectual is to close the opening in the chest wall, and thus put an end to the pleural ventilation, or else to make the opening still larger and thus insure the total collapse of the lung In two cases the dyspnea subsided when he made the opening larger, and pressed down on the lung with hot compresses to expel all the residual air Differential pressure procedures, etc, are superfluous, all that is needed is to make the opening into the chest large, and immobilize the walls with a retractor which stretches that side of the diaphragm, making sure that all the residual air is squeezed out of the collapsed lung The surgeons can then operate with confidence that there will be no modification of the heart or respiration rhythm, the collapsed lung safely tucked out of the way He makes a point of aspirating out all the air in the pleura the last thing before completing the suture. The roentgenologist watches as this is being cautiously done, and notifies the surgeon the moment the entire lung expands to reach the chest wall The results have been most gratifying in his experience with over 100 intrathoracic operations of the kind, many of them for extensive war wounds All recovered but one man who was suffocated by pus, and another with cancer of the esophagus

May 17 1922 **30** No 39

*Treatment of Syphilis L Brocq —p 421

Treatment of Syphilis—Brocq declares that the general practitioner is confused by the conflicting opinions that prevail among syphilologists There is no agreement as to the drug, the dose, the method, etc., and it is still a question whether the intravenous treatment may not damage the vessels and the liver seriously He regards it as extremely significant that, whereas in the nine years before 1905 he never observed more than three or four cases of jaundice in syphilitics, in recent years jaundice is being constantly encountered in syphilitics that have been treated with arsenicals In any event, he says, these drugs should not be given further to patients developing jaundice under them

May 20 1922 **30** No 40

*Radiotherapy of Pituitary Tumors F Terrien —p 429
Intravenous Quinin Treatment of Malaria Genevrier —p 431
*Cardiac Thrombostasis R Lutembacher —p 432
*The Anilin Dyes in Surgery L. Chemisse.—p 435

Radiotherapy of Pituitary Tumors—A combination of organotherapy, mercurial treatment and the roentgen rays has given excellent results in nearly all the cases of pituitary tumors in which it has been tried Terrien adds that the effect was particularly striking on the trophic disturbances from the tumor, and above all on the headache and impairment of vision In 148 cases of pituitary tumor with visual disturbances on record, there was blindness in 34 but choked disk only in 15 In 10 cases treated with radiotherapy the improvement in the visual field is evident from the charts given as also in Carlotti's 4 cases In some of these cases vision was regained after several months of blindness Beclere irradiates the pituitary through mouth, brow and temples where the bone is thinnest, using 5 H units at each sitting In all his cases the action was durable One patient has had no recurrence during nine years to date In one of the cases the radiotherapy seemed to reduce the visual field, hence extreme caution is necessary The effect is most pronounced with disturbances of mechanical origin

Cardiac Thrombostasis—Lutembacher describes the clinical picture induced by thrombi in the heart, too large to pass into the vessels Even at necropsy the cause of the sudden death may not be suspected unless the heart is opened up

The Anilin Dyes in Surgery—Chemisse concludes his review of recent literature on this subject with the statement that the anilin dyes seem to act only on staphylococci and streptococci

May 24 1922 **30** No 41

Effect of Liver Extract on Heart and Vessels H Roger —p 441
Electric Destruction of Pleural Adhesions M Herve.—p 446
The Babinski Toe Phenomenon J Bychowski —p 447

Action of Organ Extracts on Heart and Vessels—In his systematic research on extracts of various organs, Roger tries to isolate the special substances and the antagonists He discusses liver extract here, reproducing eleven tracings to show the cardiovascular effect

Electric Destruction of Pleural Adhesions—Herve describes in detail a case in which he succeeded in breaking up adhesions with the high frequency current, thus rendering artificial pneumothorax possible by this *cautelage* It did not cause pain or hemorrhage and the benefit from compression of the lung was prompt and pronounced

The Babinski Toe Phenomenon—Bychowski recalls that this year has been the twenty-fifth anniversary of Babinski's toe sign 'The chapter thus inaugurated by Babinski is by no means concluded" Bychowsky comments on the negative toe sign in his 100 cases of motor disturbances from epidemic encephalitis, and after certain war wounds of the brain

May 27 1922 **30**, No 42

Septicemic Adenopathies P Ravaut Boulin and Rabeau —p 453
*Recent Research on Measles P L. Marie —p 456

Septicemic Lymphadenitis—Ravaut and his co-workers discuss a variety of benign suppurative *poradeno-lymphite* with septicemia and its relations with subacute inguinal lymphogranulomatosis

Prophylaxis of Measles—Marie reiterates that next to tuberculosis, measles is the most murderous of all diseases of children, and yet not until 1916 was any attempt made to utilize convalescents' serum in prophylaxis This was done by Nicolle and Conseil at Tunis, protecting the younger children in a family by injecting 4 c c of blood serum from the convalescent older child Their further experiences were published in 1918, and were confirmed by Richardson and Connor in 1919 and by others in South America and Germany, by Degkwitz in particular, whose first publications date from 1920 Degkwitz has since published successful prophylaxis by a vaccine made from the eye and throat secretions of cases of measles This induces a mild febrile reaction, and none of those thus treated has contracted measles during the months since

May 31 1922 **30** No 43

*Baldness in the Twenties R Sabouraud —p 465
*Silent Cavities in Lungs R Burnand and R Carrard —p 467

Baldness in the Twenties—Sabouraud remarks that many insects and birds, at the age corresponding to the twenties in men, develop some ornamental feature, a nuptial robe, while

man may lose his hair at this time and thus be deprived of part of his comeliness 'This is illogical and unnatural, and the reason for it is a mystery that will probably baffle several generations yet" No treatment of seborrhea and of seborrheic alopecia has given any appreciable results to date Local measures may retard the baldness but they never cure A down may grow and encourage the patient, but the hairs are atrophic and do not last The best local treatment of these grave seborrheas is carbon sulphid, in spite of the drawbacks of its odor, its inflammability and the smarting it induces It is the only treatment, he says, which in a few weeks seems to arrest this premature baldness of young men and the seborrhea directly responsible for it His formula is 75 c c of acetone, xylene or benzin, 75 c c of carbon tetrachlorid, 150 c c of carbon disulphid and 9 gm of precipitated washed sulphur He suggests the possibility of organotherapy with an extract of the interstitial gland, which seems to have under its control the secondary sexual characteristics But no one has tried it as yet, and we cannot experiment on animals, as seborrheic alopecia is unknown outside of the human species When the baldness seems to follow an illness, the typhoid or other infection has merely hastened the course of the already established alopecia It begins with the genital period, and castration prevents it No tendency to baldness was found in 340 eunuchs examined by his correspondents in Asia In seborrheic alopecia new hairs sprout as soon as the old fall but each new crop is weaker and smaller to final total atrophy Unless a family tendency is known the young men do not apply for treatment until two, five, ten years too late The earlier the seborrheic alopecia begins, the more rapid and severe the course He knows of two brothers who were both bald at 18 When it begins at 16 or 17 it is established at 24, but when it does not begin till 18, the baldness is not complete till 27 or 28 The satyrs on the Greek vases were always young and bald

Silent Tuberculous Cavities—Burnand remarks that tuberculous cavities not inducing appreciable symptoms are nothing new, but he has been amazed to find that 55 per cent of the tuberculous cavities shown up by the roentgen rays had not induced characteristic symptoms In forty-two cases the only possible suggestion of a cavity was what he calls the *obscurite respiratoire d un territoire trouble* In twenty-three others the physical findings indicated merely a focus of softening of the second degree

June 3, 1922 **30** No 44

Action of Garlic on Heart and Vessels Loeper et al—p 473
*Silent Intracranial Abscess H Aboulker—p 474
Cirrhosis of Spleen and Liver of Malarial Origin D Ionesco and M Popper—p 477
Treatment of Sequels of Epidemic Encephalitis Chemisse—p 478

Silent Intracranial Abscess—Aboulker reports from Algiers ten typical cases of intracranial abscess from his more extensive experience In three cases with a very large extradural abscess, and in four cases in which the abscess was in the brain, choked disk was never found and there was no pain on pressure or percussion, and no motor or sensory disturbances Headache, with change of character and sluggishness in the mental processes is constant and early with an abscess of the brain It should be sought and evacuated during this stage which is a long one before somnolency and deadening of all faculties follow He ascribes two of his fatalities to the chloroform and urges that chloroform should be proscribed when any complication in brain or meninges is suspected

Schweizerische medizinische Wochenschrift, Basel

May 11, 1922 **52** No 19

Neuritis O Veraguth—p 445
*Strophanthin by the Vein H Staub—p 447
*Fat Embolism of the Brain J Tobler—p 452
Testing Vision I Strebel—p 456
*Substitute for Duhrssen's Tampon F Schreiber—p 458

Notes of a Neurologist.—Veraguth describes a case of polyneuritis with both tonic and paretic features, but without incapacitating the man of 40, a Cook's guide In another case a Korsakow psychosis followed an attack of botulism poisoning in a woman with pronounced polyneuritis In another woman, polyneuritis had developed after two operations for recurring mammary cancer The polyneuritis included the fifth, sixth and twelfth cranial nerves In another case, carbon monoxid poisoning had induced the polyneuritis The carbon monoxid had developed from a pile of phonograph records evidently set on fire by the drowsy man's cigar When he regained consciousness, twenty-four hours later he was lying on the floor, his legs paralyzed and also the right facial nerve and shoulder muscles, and he and the room were covered with soot The polyneuritis was intensely painful for six months but it then subsided The case raises anew the old question whether carbon monoxid polyneuritis is of toxic or mechanical origin, from lying so many hours in a cramped position unconscious The gradually increasing paralysis of arms and legs in another man was traced to occupational use of "solvent naphtha" in automobiles

Strophanthin.—Staub gives tracings from a case of severe cardiac asthma kept under control with strophanthin for the two years the man of 52 was under observation The intervals were finally increased to ten or twelve days, and he was able to resume his work as a shoemaker Staub warns that strophanthin has a cumulative action though not so pronounced as digitalis and only half the dose should be given if digitalis has been taken in the preceding two days

Fat Embolism of Brain.—Tobler operated in the case described to relieve the pressure on the brain from unknown cause the fat embolism not having been suspected The man's leg had been fractured, he became unconscious after the fracture had been dressed This free interval before the stupor is instructive The urine and sputum may show fat droplets, but they may be found even without signs of fat embolism Numerous symmetrical punctiform hemorrhages in the skin are characteristic, they appeared from the third day on in six cases on record Headache, trismus and spasms of the limbs have been observed, as also isolated paralysis, vomiting, arrhythmia and fever but are not pathognomonic The fat embolism in this case was not suspected until necropsy, when the peculiar purpura aspect of the brain first suggested it

Aluminum Acetate to Arrest Hemorrhage—Schreiber relates that this drug has never failed in his twenty-five years of practice to arrest hemorrhage from inertia of the uterus at childbirth and has proved its usefulness in many cases of parenchymatous hemorrhage of various organs He uses it in a 2 or 3 per cent solution to arrest obstetric hemorrhages, diluting the official 10 per cent solution, which keeps indefinitely The hemorrhage after tonsillectomy was always arrested at once by rinsing out the nasopharynx with the 10 per cent solution

Pediatria, Naples

April 1, 1922, **30** No 7

Bacteriologic Research on Malta Fever E Gerbasi—p 289
*Whooping Cough in the New Born G Milio—p 297
*Tumor in Rhinopharynx D Tanturri—p 302
Urticaria and Ascaridiasis O Pentagna—p 308

Bacteriology of Malta Fever—Gerbasi discusses the biologic and morphologic behavior of the Bruce micrococcus and others resembling it

Whooping Cough in the New-Born—Milio relates that the disease was severe in the two infants 8 and 10 days old, but he tided both safely past the gravest period by an intramuscular injection of 5 c c of ether every second day The paroxysms grew gradually less severe and less frequent He gave a total of six and eight injections No benefit was apparent until after the third injection but then progressive improvement was manifest

Tumor in Nasopharynx of Small Child—Tanturri reports another case of successful extirpation of a tumor in the nasopharynx The cautery loop in a protecting catheter was introduced through the nose (after cocain and epinephrin) It was fitted over the base of the neoplasm the latter having been loosened up with the fingers The electric current was then turned on for electrolysis of the base of the tumor As the mass forming the tumor dropped off, it was seized with

forceps and extracted through the mouth There was no hemorrhage, and there has been no recurrence during the nearly four years to date He has operated in this way in a number of other children, and all with similar success The tumor in this case was a cystic fibroma showing sarcomatous degeneration

Ascaridiasis and Urticaria—The disappearance of the urticaria after a vermifuge apparently explained it as a manifestation of anaphylaxis from the ascaridiasis

May 15 1922 **30**, No 10

*Treatment of Tuberculous Meningitis O Cozzolino—p 433
Chloroma in Child of 3 G Caronia—p 439
*Influence of Protein Therapy on Phagocytosis A Dominici—p 446

Treatment of Tuberculous Meningitis—Cozzolino has been giving a trial to Bier's method of passive hyperemia in treatment of tuberculous meningitis in three children 4, 7 and 8 years old He was inspired to do this by the report of two cases cured by this means, plus lumbar puncture, published in the *Munchener medizinische Wochenschrift* in 1913, p 1430 No benefit was apparent in Cozzolino's cases, nor in Squarti's eight cases (1916)

Influence on Phagocytosis of Protein Therapy—Dominici reports considerable research on guinea-pigs which demonstrated that phagocytosis was remarkably stimulated and the inoculated bacteria rapidly disappeared from the peritoneal effusion under the influence of parenteral injection of a protein, either whole milk or peptone or a vaccine The similar effect induced by all these different proteins—the striking activation of phagocytosis that follows at once the parenteral injection of a small amount—suggests a uniform mechanism A large dose has a paralyzing effect She noted a specific action in addition from antityphoid vaccine after inoculation with typhoid bacilli Even twice the lethal dose was thus conquered In experiments with the other proteins the bacteria injected were always below the lethal dose

Policlinico, Rome

May 1 1922 **29**, No 18

Pleuritis Inducing Asthma U Baccarani—p 569
Nervous Symptoms from Malaria in Children G Squarti—p 571
Examination of the Prostate E Pirondini—p 577
Autolymph Treatment in Tuberculosis L Bottacin and D Magro—p 579
The Probe Needle V Bilotta—p 580
Activated Sludge in Treatment of Sewage A Filippini—p 581

May 8 1922 **29** No 19

Protein Therapy in Theory and Practice S Belfanti—p 601 Conc n No 20
Fracture of Patella G Tessier—p 609
*Postencephalitis Parkinsonism B Masci—p 613
Improvised Dark Field Microscopy V Vanni—p 614
Choice of Occupation G Casuccio—p 615

Postencephalitic Parkinsonism—Masci has been much impressed with the fact that persons with pronounced parkinsonian symptoms after epidemic encephalitis throw them all off when they run Even one patient with hemiplegia seemed to cast it off like a garment when running All these postencephalitis cases displayed this remarkable difference between their halting jerking slow movements and their agile running gait Tilney calls this 'metadromic progression," Souques, "paradoxic kinesia" and Masci calls attention to it as a means of distinguishing between true parkinsonism and that which follows epidemic encephalitis There is nothing of the kind with true parkinsonism

Riforma Medica, Naples

April 10 1922 **38** No 15

Appendicectomy Three Cases S Scighano—p 337
*Reflex Action Between Stomach and Ear A Roccavilla—p 340
Possible Hormone Action of Ciliary Epithelium Scalinci—p 345
Vascular Symptoms as Index of Pressure A Ferrannini—p 347

Reflex Action Between Stomach and Ear—Roccavilla applied stimuli of different kinds to the stomach in health and disease, and noted a reflex action in the labyrinth of the ear It was not as constant nor as lively as the reflex action induced in the stomach, on the other hand, by stimuli applied to the labyrinth

May 8 1922 **38**, No 19

Value and Limitations of Deep Radiotherapy M Ponzio—p 433
*Total Amount of Blood G Moscati and G Napolitano—p 435
*Epidemic Lymphadenitis V Vanni—p 438
*Malformations in Sexual Perverts M Carrara—p 440
Pathology of the Patella E Arevoli—p 443

Optic Test for Total Amount of Blood—Moscati determines the polarizing action of the blood before and five minutes after injection into the blood stream of a given solution of glucose His experiments in this line on dogs with experimental nephritis confirmed the assumption that there is actually a permanent hydremic plethora from an increase in the total amount of the blood, and especially of the plasma, in experimental nephritis with much albuminuria

Epidemic Lymphadenitis—Vanni was sent to a remote part of the province of Rome to study an epidemic illness which began with sudden pain in one inguinal region followed by torpid ulceration of the local glands, each ulcerating separately Fever was slight and irregular, and the whole healed in from four to six months, the ulcerations leaving pits It was highly contagious, and affected both sexes and all ages A minute micrococcus was shown up by the Ziehl and Giemsa stains in the puncture fluid from the glands Guinea-pigs injected with this fluid or with cultures of the micrococcus mostly died in a few days, and the liver, kidneys and suprarenals were found much enlarged, the spleen very small

Local Malformations in Sexual Perverts—Carrara is director of the Istituto di Medicina Legale at Turin He writes to protest against the traditional assumption that, because a person is suspected of being a sexual pervert any abnormal conditions found in the sexual organs or anus are necessarily the result of "sexual delinquency" He declares on the contrary that the abnormal conditions may have been primary, and they may have been a factor in the sexual psychopathy His text is a recent medicolegal case in which a daughter accused her father—a man prominent in social and business life—of incest rape, and presented a medical certificate to the effect that the vagina and anus were so large and smooth that they proved multiple sexual relations The physician who signed the certificate confirmed it in the witness stand, and the court was more than disposed to accept his view

Rivista Critica di Clinica Medica, Florence

March 25 1922 **23** No 9

*Spinal Fluid in Neurosyphilis A Terzani—p 97 Conc n No 10 p 109

The Spinal Fluid in Disease of the Nervous System—Terzani describes and criticizes the various reactions that can be induced in the cerebrospinal fluid with disease of the nervous system, especially in neurosyphilis He gives an instructive table of the findings with eleven different parallel tests in 36 cases, including 3 of tabes and 3 of general paresis He regards Boveri's simple test as very useful Although it is not specific for any special disease, yet it warns of the presence of an organic lesion, and often this is all that we need to know for management of the case He pours along the wall of a test tube containing 1 c c of the cerebrospinal fluid, 0 1 c c of a 1 1,000 solution of potassium permanganate (not 1 c c as often published) A yellow zone forms at the junction of the two fluids or spreads through the whole if they are mixed The intensity of the reaction is indicated by the promptness with which the tint changes, from two to six minutes is the accepted range for a positive response In his series the strongest reaction was obtained with epidemic and tuberculous meningitis (half a minute to two minutes), in general paresis (one to three minutes), in acute poliomyelitis (three to four), and epilepsy (four minutes) The differential count of the cells in the sediment is also important In one of the cases of tabes the Boveri reaction was pronounced although the Wassermann was negative

Revista de Medicina Legal de Cuba, Havana

April 1922 **1** No 4

*Lesions from Medicolegal Point of View A Barreras y Fernandez—p 14
Medical Officers R de Castro y Bachiller—p 40

Lesions from Medicolegal Point of View—Barreras emphasizes that the prognosis from the medicolegal standpoint is different from that of the pathologist. The length of the resulting disability, the physical defect left and the deformity—all have their bearing on the medicolegal estimation of the case, as he shows by his classification and examples. The definition of deformity or disfigurement its degree etc. and the age and sex of the injured, the motive etc., all have to be taken into account, as he explains.

Semana Medica, Buenos Aires

April 13, 1922, **1**, No. 15

*Pregnancy in Heart Disease. Chamorro Lolco and Dicharry.—p. 577
*Fever with Hemoptysis in Tuberculosis. F. Gorriti.—p. 580
Prostatic Adenoma. S. Barabino Amadeo.—p. 581
Defense Against Tuberculosis. Hitce and Barrionuevo.—p. 593
Intravenous Treatment of Typhoid Septicemia. de Quiro.—p. 601
Perversion of Sensuality. L. Sirlin.—p. 606
Melanic Epithelioma of the Conjunctiva. C. Jimenez Lopez, V. Ribon and V. Leon Chavarria.—p. 609

Pregnancy in Heart Disease—The young woman reached term without grave disturbance from the congenital mitral stenosis which before the pregnancy had always been well compensated. Labor brought severe asystolic arrhythmia and cyanosis. After fourteen hours of ineffectual labor under spinal anesthesia the cervix was dilated with the fingers, the perineum incised as the head presented, while pressure was applied to the abdomen and the child was extracted with forceps. The patient was kept in a semiseated position as much of the time as possible. Compensation was soon restored under tonics, restriction to milk and cupping. The child is developing normally.

Fever with Hemoptysis—Gorriti has noticed at the national sanatorium for the tuberculous in his charge that hemoptysis sometimes occurs in several of the patients at once during the same day or week. This collective appearance of hemoptysis always coincided with a low barometer. Men are affected with hemoptysis far more frequently than women and he reasoned that menstruation serves as a safety valve to ward off hemoptysis. This assumption suggests the advisability of occasional venesection in prophylaxis of hemoptysis in men known to have a tendency to hemorrhage from the lungs. Fever with hemoptysis is not due entirely to the toxic-infectious process, the reabsorption of the extravasated blood may explain a certain proportion of it if not the whole. It is like the fever with a simple fracture.

Vida Nueva, Havana

March 1922, **14**, No. 3

*Estimation of Age of Bloody Finger Prints. I. Castellano.—p. 69
Large Aneurysm of Arch of Aorta. J. Ortiz Perez.—p. 73
Recurrent Laryngeal Paralysis from Stab Wound. A. Frias Onate.—p. 76

Estimation of Age of Bloody Finger Prints—Castellano's two colored plates show the aspect and change of tint of the blood and finger print after intervals of less than ten minutes to one hour to one month and over twelve months, a total of twelve specimens. He has adapted the Tomellini color scale to the Tallqvist scale, making the openings a long rectangle instead of circular, as his plates show.

Beitrage zur klinischen Chirurgie, Tubingen

1922, **125**, No. 3

*Accessory Renal Vessels. G. Petren.—p. 493
*Embolic Gangrene. P. Bull.—p. 519
Perforated Ulcer in Stomach and Duodenum. W. Schmidt.—p. 568
Appendicitic Abscess. 102 Cases. Devecis.—p. 581
Appendicitis. 1,000 Operative Cases. H. Sterchele.—p. 607
Contusion of Abdominal and Pelvic Organs. M. Baumann.—p. 643
*Mammary Cancer. G. H. Feist and A. W. Bauer.—p. 636
Tetany After Goiter Operations. H. Knaus.—p. 669
Functional Treatment of Fractures. M. Krabbel.—p. 681
Solitary Cysts in Kidneys. C. Harms.—p. 688
The Neurinoma Question. R. Sommer.—p. 694
Bone Findings After Plaster Dressing. H. Lowenstadt.—p. 721
Primary Thiersch Flaps Over Large Area. O. H. Petersen.—p. 730

Clinical Importance of Accessory Renal Vessels—Petren's own experience and review of the literature have confirmed the probability of there being some abnormal blood vessel in the kidney when there are repeated attacks of pyelitis and no calculi can be detected with the roentgen rays, the ureters can be normally catheterized, and the kidney pelvis is dilated while the urine and micturition seem normal. The suspicion of hydronephrosis from an accessory vessel justifies an exploratory incision at once. Unusually profuse hemorrhage at an operation on the kidney can usually be explained by some supernumerary vessel. In operating on the kidney, he adds, it is well to bear in mind that one kidney in every five has some anomaly in its vessels.

Embolic Gangrene—A similar article by Bull was summarized in these columns March 18, 1922, p. 855. He warns that pains or functional disturbance or both anywhere in the body with any form of heart disease should always suggest embolism. The surgeon is practically powerless if the diagnosis is not made until gangrene is under way.

Mammary Cancers—Feist and Bauer give a retrospective analysis of 128 cases at Prague, and compare their findings with the literature. Over 72.7 per cent. are still cured after three years but only 33.3 per cent. of those with glands affected at the time. Local recurrence was observed in 17 per cent. The outcome was much less favorable in the cell-poor scirrhous tumors than in the cell-rich tumors. About 42 per cent. died from internal metastasis, and twice as many of those with scirrhous tumors as of the solid cell-rich tumors. Only the most extensive excision of the soft parts, especially of the skin and subcutaneous fat tissue, guarantees against local recurrence. In only 31 per cent. of the entire number was the interval from the first discovery of the tumor less than three months. In 72.5 per cent. there was already metastasis in the glands in the axilla, and in 48.4 per cent. the skin was already involved.

Deutsches Archiv fur klinische Medizin, Leipzig

May 5, 1922, **139**, No. 3-4

Gout and Lead Poisoning. A. M. Brogsitter and H. Wodarz.—p. 129
*Poliomyelitis During Influenza Epidemics. F. Hiller.—p. 143
Muscle Tonus. E. Grafe.—p. 155
Percussion and Auscultation. P. Martini.—p. 167
Primary Oliguria. W. H. Veil.—p. 192
Metabolism of Water and Salt During Thyroidin and Ovarian Treatment. W. H. Veil and H. Bohn.—p. 212
Phlorhizin Test in Diabetes. W. H. Veil and Reisert.—p. 235
Acute Malignant Degenerative Syphilis. A. Pfeiffer.—p. 245
Catalase Content of Blood in Pernicious Anemia. H. Korallus.—p. 252

The Kidneys in Gout and Lead Poisoning—In the 8 cases of chronic lead poisoning and 6 of gout described here there was nothing in the history to indicate that there had ever been an acute hemorrhagic nephritis so the necropsy findings can be ascribed to the lead or the gout. Deposits of urates were found in only 2 cases but the blood vessels showed pronounced changes in both the lead and the gout cases as also the glomeruli, the findings in the tubuli differed materially.

Poliomyelitis During Influenza Epidemic—Hiller reports 10 cases of acute spinal disease during a recent six months, accompanying an epidemic of influenza at Dresden. In 6 cases the clinical picture was that of acute anterior poliomyelitis, in 3 it was more an acute diffuse myelitis and in another case a sudden paralysis of the bladder was the only disturbance. This case was the only one in which recovery has been complete. The paralysis in the others very slowly retrogressed and there are still traces of it. His study of the records has shown an epidemic appearance of disease of the central nervous system during the great influenza epidemics of 1712 and 1889-1890. The connection between infantile spinal paralysis and epidemic encephalitis needs further study. The onset differs in these diseases, the meningitis of the former being scarcely noted with the latter and then is evidently only secondary. In 2 of the cases here described the extensive myelitis had induced the picture of hematomyelia. In a compilation in 1907 of 25 cases of spontaneous hematomyelia, 14 were known to have occurred during or shortly after an epidemic of influenza.

The Muscle Tonus—In this first article of a series Grafe discusses the influence of changes in tonus on the total metabolism with organic nerve disease, tabulating under nineteen headings the various findings in sixteen cases.

Research on Percussion and Auscultation—Martini in this second communication studies the laws and interpretation of tympanitic and nontympanitic resonance

Primary Oliguria—Veil explains how primary oliguria can occur, the exact opposite of diabetes insipidus It may be from organic or functional disturbance in the autonomic nervous system, a vegetative neurosis in the edema line Some cases of different types are described In treatment, calcium and iodin must be considered Iodin is most effectual in daily doses of not more than 0 25 mg Ovarian extract may be useful to combat a dropsical tendency

Reaction of Diabetics to Epinephrin—The findings are recorded in twelve diabetics in regard to the glycemia after a test injection of epinephrin the vasomotor reaction, glycosuria, acidity of the urine, ketonuria and the carbon dioxid tension in the alveolar air

Acute Malignant Syphilis—The acute degeneration affected the liver, kidneys and spinal cord in the three cases described The syphilis was of twenty years standing in one case, and the clinical picture with the acute degeneration of the liver was of the acute yellow atrophy type

Deutsche medizinische Wochenschrift, Berlin

March 31 1922 48 No 13

Degeneration and Regeneration Ernst—p 409 Conc n
*Lawn Tennis Leg H Kuttner—p 412
Syphilis in Wetnurses K Zieler—p 413
Quinin Digitalis in Heart Disease Starkenstein—p 414 Cont d
Roentgen Irradiation of Cancer Strauss—p 416 Conc n
Duodenal Sound in Disease of Bile Ducts Hecht and Mantz—p 418
*Carbohydrate Metabolism in Liver Patients Hetenyi—p 420
Hyperthyroidism A Hellwig—p 420
Complete Differential Leukocyte Count in Puerperium Fuss—p 422
Modified Form of Twilight Sleep B Liegner—p 424
*Desquamation in Urinary Tract in Scarlet Fever Gonnella—p 426
Course in Dermatologic Technic M Joseph—p 426 Cont n

Lawn-Tennis Leg—In the midst of a tennis game, a player suddenly stops short on feeling a sharp pain in the calf or farther down on the leg Kuttner states A muscle or a tendon (the Achilles tendon) has been torn Usually the player is able to limp off the court, but sometimes has to be carried off A roentgenogram will confirm the usually certain diagnosis, and will reveal the details in regard to the site and extent of the laceration, as the tendon casts a distinct shadow on the roentgen plate The roentgenogram is also useful in following the healing process in the tendon or muscle Formerly such injuries were treated with splints or plaster bandages or even surgical therapy, with operative exposure of the injury and suture The results were not good, or at least recovery was delayed as is shown by Dr Fanes own experience, since it was nineteen months before he could walk without embarrassment The only correct treatment is that which lays stress on the rapid restoration of function, does not confine the patient to bed, and induces him to begin walking at once In mild cases, with a partial rupture of a muscle, this causes no difficulty With the aid of a cane the patient should at once make an attempt to walk, which will be painful at first, but after two or three days it will be easier, and after a week a normal gait can usually be reached In the mild cases bandages are unnecessary and massage is superfluous For nervous patients, if the pain is severe, a bandage may be used For three or four weeks, all violent exercise, including tennis, should be avoided, especially in older persons, as the lacerated muscle or tendon will otherwise break down again Even in severe cases—total rupture of the Achilles tendon—walking should be begun at once but here, since the pain is great and the foot is weak, the treatment introduced by *Hood* in England should be instituted The patient reclines on a sofa and the injured leg is kept in an elevated position This suffices to check the hemorrhage to bring down the swelling and ease the tension The patient is admonished to walk more and more each day In the severe cases the bandages may be renewed until the patient feels that he can dispense with them The prognosis is excellent even when the Achilles tendon is severed, but partial rupture of the muscle heals much more rapidly though pain is in the muscle may be felt for several months

Carbohydrate Metabolism of Liver Patients—Hetenyi states, after research in more than a hundred cases of various forms of liver disease, that he was unable to find that the blood sugar values fasting were appreciably affected From his experiments he found that lesions of the liver may affect the blood sugar in two ways By loss of functioning parenchyma, sugar formation in the liver is lessened, and obstruction of the bile ducts impairs glycogen fixation on the part of the liver When we apply the role of these factors to human pathology, we can ascribe to the first factor only a limited importance The effect of the second factor was shown in the high blood sugar values in patients with icterus

Desquamation of the Urinary Tract in Scarlet Fever—Gonnella's investigations lead him to believe that ordinarily there is a desquamation of the urinary tract in scarlet fever analogous to the desquamation of the epidermis

April 7 1922 48 No 14

Encephalitis and Myelitis in Early Syphilis Under Arsphenamin Recovery Under Mercury and Arsphenamin Werther—p 443
Treatment of Auricular Fibrillation with Quinidin and Digitalis W von Kapff—p 445
*Quinin Digitalis in Heart Disease E Starkenstein—p 448 Begun No 13 p 414
Radiothorium P Lazarus—p 451 Conc n No 15
Bilirubin Crystals in Urine in Icterus G Dorner—p 453
Treatment of Rickets R Hamburger—p 454
Quick Staining of Intestinal Flagellates R Oehler—p 456
Experiences with Neosilverarsphenamin Sodium Sternthal—p 457
Roentgen Rays in Gonorrheal Epididymitis J Wetterer—p 459
Temporary Roentgen Sterilization of Man and Wife Markovits—p 459
Treatment of Acute Nephritic Lung Edema by Constriction of Limb L Ehrenberg—p 460
Table for Taking of Body Measurements Schmidt and Weiss—p 461
Course in Dermatologic Technic M Joseph—p 461 Conc n

Quinidin-Digitalis Treatment of Auricular Fibrillation—Starkenstein states that the use of quinin and digitalis combined is justified if in connection with prolonged digitalis medication it is necessary to counteract possible cumulative effects or other dangers from intoxication, and more especially if the heart is already showing toxic symptoms, in which case the toxic remedy is omitted and the other employed as 'antagonist" In certain cases the combination may be valuable for the strengthening of the desired therapeutic action of digitalis if an excessive systolic effect opposes the necessary diastolic or if, owing to narrowing of the coronary artery, the action of digitalis has itself an inhibitive effect The combination is contraindicated when a quick systolic effect of digitalis is needed, since here quinin serves as an inhibiting antagonist and opposes the desired effect If as the result of auricular fibrillation, disturbances in ventricular activity and in the circulation arise, then the combination with digitalis is justified to strengthen the effect of the quinin Digitalis alone is contraindicated Cases of cardiac insufficiency with auricular fibrillation should be treated first with digitalis alone, then after compensation is established, with quinin alone, and if the conditions mentioned above are present the combination of quinin and digitalis may be used

Jahrbuch fur Kinderheilkunde, Berlin

April 1922 98 No 1 2

*Oxyuriasis O Heubner—p 1
*Fatigue and Irritability P Karger—p 22
Endothelium Permeability P Hoffmann—p 39
*Incipient Scurvy E Nassau and M J Singer—p 44
*The Kidneys in Infants E Stransky and R Kochmann—p 63
*Blood During Loss of Weight A Balint and A Peiper—p 74
*Porridge in Infant Feeding B Epstein—p 85

Oxyuriasis—Heubner had a minute dendritic ulcer form in the cornea which was about a year in healing and one ophthalmologist said that he had encountered similar cases in persons with oxyuriasis Heubner had long been infested with the oxyuris and had been making a special study of his case Hemeralopia has also been noted in oxyuriasis His research has demonstrated that the course of this helminthiasis is by six or seven week cycles probably by new generations The vermifuge treatment is rendered more effectual by taking onions or garlic for six or seven days beforehand, three or four times a day, 15 or 20 gm of fresh scraped raw onions or garlic Then santonin or male fern put an end at

once to all disturbances A month passed without further signs of the helminths There can be no question of eradication however, until two months have passed without signs of the helminths By wearing tight bathing trunks at night, the pinworms that crawl out of the anus get caught in the fibers of the trunks and can thus be studied Treatment should aim to attack the new generation as it develops

Hypokolasia—Karger has coined this term to apply to a group of nervous affections characterized by early fatigue or other functional weakness of the inhibiting mechanism The result may be an abnormal exaggeration or an abnormal weakness of inhibitions This offers a new point of view for treatment of neuropathies For example in treatment of enuresis the child can be got up an hour earlier, so that, from lack of anything better to do he fills up the time before school by eating Or repose is enforced after dinner till the clock strikes so the child will linger at the meal instead of rushing through it to run out to play The aim in treatment is to conquer the inhibitions not to coddle them If a child cannot go to sleep unless the room is dark and quiet, combat this, instead of keeping the house quiet

The Endothelial Symptom in Infants—Hoffmann refers to the minute hemorrhages in the skin that develop after an elastic band has been applied to the upper arm drawn tight enough to congest the veins but not to shut off the radial pulse entirely This was supposed to be peculiar to scarlet fever, but has been found positive in various other infections Hoffmann's tests on the ten infants suggest that a lack of vitamins may also entail this abnormal permeability of the endothelium of the capillaries A positive response may thus warn of the necessity for adding accessory factors to the food

Impending Scurvy—Nassau and Singer describe a set of symptoms which warn that scurvy is impending In 50 per cent of thirty children who later developed scurvy, minute punctate hemorrhages in the skin had been observed, mostly in the face In 37 per cent, from two weeks to three months before the scurvy, blood had been noticed in the urine although the children seemed to be thriving Loss of appetite was noted in 50 per cent on an average of 17 months before the scurvy developed Inability to resist infection is another feature of this prodromal stage, as also the stationary weight

Renal Function in Infants—In this fourth report of research in this line, Stransky and Kochmann state that some infants eliminate water by means other than the kidneys in larger amounts than through the kidneys Epinephrin did not seem to modify kidney functioning but pituitary extract in large doses checked elimination of water by the kidneys it was thrown off by other routes Small doses of pituitary extract increased the elimination of sodium chlorid in the urine The details are given from nine infants and young children

The Blood During Sudden Losses of Weight—The experiments reported demonstrate that the blood may be abnormally concentrated or abnormally diluted in infants who are losing weight

Porridge in Infant Feeding—The advantages of giving a food less fluid than milk to infants with habitual vomiting are now thoroughly established The stomach contracts around the more solid food and this prevents swallowing of air and the expulsive contractions The infants thrived on the one to three teaspoonfuls of porridge daily (*weizengrutzebrei*), kept up for months In this article Epstein describes experiences with it for infants requiring a little supplementary food or to combat constipation in which it proved of great advantage

Klinische Wochenschrift, Berlin

Feb 25 1922 1 No 9

Decomposition of Carbohydrates in Animal Organism Embden—p 401
The Ovarian Cycle and Its Influence on the Changes in the Uterus R Schroder—p 403
Dynamics of Dilated Heart Treatment of Lung Edema Weitz—p 405
Aluminum Compounds H Kionka—p 408
*Ammonium Chlorid in Tetany Freudenberg and Gyorgy—p 410
Operation for Congenital Goiter in Infants E Melchior—p 412
Erroneous Impressions Produced by Shadow Summation in Roentgenograms F Peltason—p 413
Indications from Analysis of Blood in Skin Diseases F Pulay—p 414
Foundations of Medical Thought of Today' O Wolfsberg—p 417
Permeability of Glomerulus Membrane for Sugar Hamburger—p 418
Effect of Killed Tubercle Bacilli H Selter—p 419
Cholesterin Content of Antigens, Bearing on Wassermann Frank—p 419
A Case of Retrosternal Goiter A I Lurinar—p 420
Adhesions in the Pelvic Abdominal Cavity P Lindig—p 421
Treatment of Gonorrhea I Rosenthal—p 423
Significance of Phosphoric Acid for Working Muscle Schmitz—p 432

Ammonium Chlorid in Infantile Tetany—Freudenberg and Gyorgy report that by the internal administration of ammonium chlorid (from 3 to 7 gm per diem) to spasmophilic infants they were able to check the mechanical and faradic nervous hyperexcitability and rid the patients of the manifest symptoms of tetany The procedure is adapted to practical application but should be employed only in manifest and not in latent tetany In one case of postoperative tetany it was shown to be efficacious In some instances the medication had to be kept up for ten days It averts the acute danger and time is gained in which to bring about a permanent change in the condition by means of cod liver oil and quartz lamp irradiation Ammonium chlorid is preferable to calcium chlorid for the reason that it is pleasanter to take The writers have sometimes found it absolutely impossible to get children to take the required dose of calcium chlorid (from 6 to 8 gm) The effect of ammonium chlorid is, to be sure, only symptomatic

Mitteil a d Grenzgeb d Med u Chir Jena

1922 34 No 5

Variations in Freezing Point of Urine Elfeldt—p 567
Cure of Occipital Cortical Epilepsy After Removal of Projectile H Kunz—p 591
Form of Chronic Paronychia Tillmann—p 596
Occult Hemorrhage H Peiper—p 598
Distribution of Leukocytes H Ruef—p 601
Testicles and Electric Responses Melchior and Nothmann—p 612.
Spondylitis H Quincke—p 624
Etiology of Hirschsprung's Disease K Vogel—p 637
Behavior of Tissues under Saline. P Rostock—p 644
Action of Iso-Agglutinins and Isolysins in Blood Transfusion F Jervell—p 650
Agglutination in Diagnosis J and J Vorschutz—p 662
Water Test in Diagnosis of Gastric Ulcer F L Bonn—p 678

Freezing Point of the Blood—Elfeldt presents further evidence that the freezing point of the blood depends on a number of factors both renal and extrarenal His long tabulated series of cases of sound and diseased kidneys, enlarged prostate etc confirm the necessity for the subjects being in water balance for tests of the freezing point to be instructive

Distribution of Leukocytes—Ruef gives the leukocyte count in blood taken from different parts of the body before and after a major operation The findings throw doubt on the accuracy of estimation of the total leukocytes from the number found in the peripheral blood A man with 5,000 leukocytes in blood from the ear may have around 20,000 in blood taken from an internal organ

Influence of Testicles on Electric Excitability—In fourteen cases more or less of the testicles had been removed for various reasons and in twelve of these fourteen subjects the response to electric tests thereafter was much increased The results of experiments on dogs coincided with this The changes in electric excitability seem to be a manifestation of endocrine disturbance Investigation of the electric excitability may thus throw light on disturbances in the balance of the endocrine system

Spondylitis—Quincke has encountered a number of cases in which supposed muscular rheumatism of the back had persisted for several months but the tenderness of the spinous processes finally imposed the diagnosis of spondylitis In all there had been an acute infectious disease or suppurative lesion not long before The bacteria invade the bone marrow of the vertebrae early in acute infectious diseases, typhoid, a streptococcus process in a tooth or other infectious process This invasion may be the explanation of the pains in the back at the onset of typhoid and other infections The marrow

process usually retrogresses without leaving a trace, but occasionally it leads to actual spondylitis, and a trauma may first call attention to it He describes a number of cases, and emphasizes the necessity for greater care of the spine in acute infectious diseases, relieving it of weight bearing and warding off strain and trauma In one of the cases cited the spondylitis developed, with fever, two months after defervescence in typhoid

Agglutination in the Blood in Diagnosis—Vorschutz states that hemagglutination is identical with bacteria agglutination, also that it is an electric process and depends on the proportion of globulins The speed of sedimentation of the erythrocytes also depends on the proportion of globulin

The Water Test in Diagnosis—Bonn refers to the differentiation of gastric ulcer from cancer by the difference in the excretion of water and salt His tests failed to confirm recent statements to this effect

Monatsschrift fur Geb und Gynakologie, Berlin

March 1922 **57** No 3 4

Histology of Physiologic Menstruation K Lindner—p 119
*Heart Disease and Pregnancy A Nelius—p 127
*The Kielland Forceps A Mayer—p 138
Twenty Years of Rural Obstetrics Schroeder—p 143
*Pubiotomy Outside of Pregnancy W T Schmidt—p 155
Pregnancy in Stump of Tube J Diemer—p 157
Nonparasitic Cysts in Spleen E E Pribram—p 164
Ancient Books on Obstetrics O Fels—p 171

Heart Disease and Pregnancy—Nelius data confirm that it is almost impossible to foretell the outcome when a woman with heart disease becomes pregnant The course may be favorable with a serious valvular defect, and may be grave with an insignificant heart lesion Women with grave disturbances at one pregnancy may have no trouble at the next one and so on In his fifty-three cases in twelve years it was evident, however, that the earlier in the pregnancy compensation failed, the graver the prognosis With failing compensation, expectant treatment under close supervision may tide through to safety

The Kielland Forceps—Mayer concludes his illustrated description of this instrument and its application with the remark that it is not yet to be recommended to the general practitioner It has proved, he says, very valuable for certain conditions an actual *Zergeisterung* of the forceps procedure It was described in THE JOURNAL, July 9, 1921, p 142

Pubiotomy Outside of Pregnancy—Schmidt has constructed a pelvis dilator which screws the edges of the bone apart when the pubis is divided With this the limits for pubiotomy can be reduced to a conjugate diameter of 6 5 or even 6 cm This operation outside of pregnancy or very early in a pregnancy represents a much less serious operation than when done at term and the dilator insures that the cleft will not close up again

Wiener klinische Wochenschrift, Vienna

March 2 1922 **35** No 12

*Influencing of Pulse Beat by Sense of Taste M Heitler—p 263
Dermatitis During Treatment of Syphilis J Klaar—p 266 Conc n No 13 p 297
Angioma in the Deep Neck Musculature H Finsterer—p 269
A Method of Staining of Reticular Fibers R Maresch—p 270

Influencing of Pulse by Sense of Taste—Heitler reports the results of research which apparently demonstrate that the pulse beat can be modified by the mere taste of certain foods, drugs beverages and condiments

April 6 1922 **35** No 14

*The Appendix and the Adnexa Uteri H Thaler—p 311
Treatment of Febrile Abortion F Mauthner—p 315
Neo Silver Arsphenamin K Ullmann—p 316
*Childbirth After Death of Mother Strassmann—p 322
Simple Blood Staining Method J Hickl and N Jagic—p 323
Meningitis Serosa in Appendicitis Gangrenosa Steiger—p 324
Old Age and Cancer Formation F Orthner—p 324

The Appendix and Affections of the Adnexa Uteri—Thaler reports that in 777 laparotomies performed during the past eleven years for inflammation of the adnexa in the Women's Hospital in Vienna he found thirty-one cases in which the appendix was adherent to the right adnexa A study of these thirty-one cases revealed that there was only one instance in which the appendix was diseased and the adherent right tube was healthy In the remaining thirty cases it could be shown from the anamnesis, the local findings and the behavior of the opposite adnexa that it was highly probable that at the time the adhesions formed the right adnexa were in an abnormal condition There was no evidence of a direct extension of an inflammation of the appendix to the central portions of tubes still healthy at the time of the formation of the adhesions

Delivery Thirty-Six Hours After Death—The macerated fetus measured 24 cm, and conditions showed that it had been expelled by gases within the uterus The woman of 32 had died two days after a chill and other symptoms had suggested possible criminal abortion

Zeitschrift fur klinische Medizin, Berlin

1922 **93**, No 4 6

*Physiology and Pathology of Amount of Blood J Plesch—p 241
Typhus in Moscow 1917 1920 D Pletnew—p 285
*The Hemoclastic Crisis P Holzer and E Schilling—p 302
*Idem W Worms and H Schreiber—p 323
*Surface Tension of Urine in Diagnosis W Schemensky—p 334
*The Arneth Blood Picture in Scurvy T Hausmann—p 346
The Constitution in Relation to Appendicitis W Backman—p 358
*Diastase in Blood and Urine in Diagnosis W Block—p 381
*Size of Erythrocytes in Different Diseases L Csaki—p 405
Influence of Stomach Function on Carbohydrate Metabolism N Roth and Z Ernst—p 417
*The Prognosis in Kidney Disease S Litzner—p 424
*Acute Nephritis without Albuminuria L Mayer—p 460

The Total Amount of Blood—Plesch advises against forbidding meat and salt for longer than six weeks, for any cause, but a protein-poor and salt poor day once a week is extraordinarily effectual in the chronic diseases of middle age Nearly all religions make fasting at some time a regular law but this provision undoubtedly at first was merely for hygiene His research has provided a base for venesection, fasting, and various forms of dietetic treatment, as he explains His tables show the blood findings in fifty cases, and the effect of venesection, etc

Test Hemoclastic Crisis—Holzer and Schilling noted a positive hemoclastic crisis with liver disease, and with congestion in the liver from heart disease also often after arsphenamin injections, and with subacidity, but the response was variable in infectious diseases The findings with various tests in fifty-one patients are tabulated Peptone had a similar action the number of leukocytes running up in the healthy, and dropping when there was liver disease

The Hemoclastic Crisis—Worms and Schreiber report thirty tests on twenty-five patients They regard the leuko-Widal, as they call the test, as indicating merely a change in the distribution of the leukocytes The response is not very constant or reliable, and can be depended on as an important clinical symptom only when the reaction is intense or there are special circumstances The reaction is not proportional to the severity of the liver process or its nature, and a negative response does not exclude liver disease

Surface Tension of the Urine in Prognosis—Schemensky was surprised at the close parallelism between the stalagmometer curve and the clinical course in his latest series of nine cases of acute articular rheumatism, glomerular nephritis and tuberculosis of the lungs In one other case of nephritis the stalagmometer quotient has kept high although the disease has long been progressively improving, no explanation of this behavior can be discovered It is possible that the apparent cure of the nephritis in this instance may be deceptive

The Blood Picture with Scurvy—Hausmann classifies the leukocytes by the Arneth differential count in scurvy, specifying some characteristic changes, reduction in numbers of neutrophils and absence of features suggesting infection

Amylase in Diagnosis—Block regards the amylase (diastase) in blood and urine as an aid in the diagnosis of the most diverse pathologic conditions as he describes, with nearly four pages of bibliographic titles set solid

Size of Erythrocytes—Csáki has often noticed that the size of the erythrocytes seemed to correspond always to the hemoglobin percentage. Any change in one was accompanied so promptly by a corresponding change in the other that he is inclined to believe that the red corpuscles can regulate their own *hemoglobin content*. *With nephrosis*, there is microcytosis probably from the increase of salt in the plasma. *With nephritis*, on the other hand, the size of the erythrocytes is not modified.

Prognosis of Kidney Disease—Litzner's thirteen pages of tabulated details of 75 cases of nephritis allow retrospective analysis of the probable outcome. The more intense the hyposthenuria, the nearer the end. Some with arteriosclerotic contracted kidney survived for many years, up to decades. The prognosis at the time in the 75 cases was correct in all but 5, in one of these it was too favorable, in the others too unfavorable. His tables list fourteen kinds of details.

Acute Nephritis Without Albuminuria—Two cases are described. In one the tuberculous young man was in good condition when he suddenly developed acute glomerular *nephritis with anuria and dropsy*, but no albumin for a week. Then came slight albuminuria, and death the eighteenth day. The acute nephritis without albuminuria was mild and transient in the other young man.

Zentralblatt fur Chirurgie, Leipzig

Feb 25, 1922 **19** No 8

Appearance of Tetany After a Gastro Enterostomy. Baumann—p 250
Operation for Postoperative Jejunal Ulcer. H Alapy—p 253
Suprarenal Extirpation and Epilepsy. F Heymann—p 255
Technic of the Henle Albee Operation. J Fisner—p 257

Operation for Postoperative Jejunal Ulcer—Alapy (Budapest) recommends, in cases of postoperative peptic jejunal ulcers that arise after gastro enterostomy on account of a constricting duodenal ulcer, that normal anatomic conditions be restored by excision of the jejunal ulcer, resection of the anastomosis loop with end-to-end suture plus pyloroplasty.

Casopsis Lekaruv Ceskych, Prague

March 4 1922 **61**, No 9

Notes on Internal Medicine at London. B K Prusik—p 177
Technic of excochleation and Cauterization of Cancer of Uterine Cervix. A Micka—p 182
*Coexistence of Different Species of Malaria Parasites. F Sieber—p 184
Otosclerosis and Chronic Progressive Loss of Hearing. Goldmann—p 186

Coexistence of Different Species of Malaria Parasites—The second species is less resistant than the old strain. Syphilis appears in a patient with malaria at first with very marked symptoms which however diminish. The Wassermann reaction remains negative in the spinal fluid while it is positive in the serum. The low percentage of parasyphilitic diseases in countries infested with malaria may be in connection with this fact.

March 11 1922 **61** No 10

Analysis of Immunity by Partial Antigens. J Jedlicka—p 201
Concl. No 12, p 252
Effect of Epinephrin on Fibrinogen in Blood. I Vanysek—p 204
Acute Myeloid Leukemia. E Zeman—p 207 Concl. No 12, p 253

Amount of Fibrinogen in Blood After Injection of Epinephrin—The fibrinogen increases early and quickly except in cases *with alimentary glycosuria*.

March 18 1922 **61** No 11

Treatment of Postencephalitic Parkinsonian Syndromes. K Henner—p 233

Treatment of Postencephalitic Parkinsonian Syndromes by High Doses of Sodium Cacodylate—Henner confirms the good results obtained by Bellarmin Rodriguez and Souques. Doses up to 2.6 gm. (!) were tolerated when injected intravenously in a 50 per cent solution though Souques published some untoward results. Henner considers these injections as the treatment of choice.

March 25 1922 **61** No 12

*Ability of the Young to Produce Precipitins. F Luska—p 249

Ability of Young Individuals to Form Specific Precipitins—A perfect parallelism could be demonstrated in young rabbits between the H ion concentration of the serum, the flocculation of the serum by small amounts of alcohol, and the formation of specific precipitins. In very young rabbits with a p_H smaller than 7 the flocculation required more alcohol and no specific precipitin formation could be obtained by injections of horse serum. The increase in p_H was *not* due to the injections as it occurred in the untreated controls too but not in the mother of the rabbits serving as positive control. The increase of the ability to flocculate with age points to Ruzicka's theory of the hysteresis of the protoplasma. The impossibility to find specific precipitins in rabbits 4 to 5 weeks old means only that it is not possible to demonstrate their presence by the methods now used.

Finska Lakaresallskapets Handlingar, Helsingfors

March April 1922, **64** No 3 4

Xanthosarcomas in Tendon Sheaths. A Krogius—p 102
Chronic Stomach Disease. R Ehrstrom—p 122
*Arteries in Kidneys and the Blood Pressure. A Wallgren—p 138
Lack of Water in the Tissues. R Ehrstrom—p 152
The Evolution of Pediatrics. W Pipping—p 155
Influenza at Helsingfors 1918 1921. H Sundelius—p 172
Tuberculosis in Rural Districts. S Savonen—p *186*

Xanthosarcomas in Tendon Sheaths—In connection with 4 cases personally observed and one of multiple xanthoma Krogius reviews the history of these growths, and protests against the general assumption that they are comparatively benign tumors. Of the 93 cases compiled by Tourneaux in 1913 the finger was the site of the lesion in 48, the hand in 12 and the forearm in 6. 19 were on the foot and one on the leg. The age ranged from 6 to 80. These tumors may grow very slowly and be stationary for years, and then start to sudden rapid growth or they may be malignant from the first. Those on the fingers have seemed to be the most benign while those on the forearm, hand and foot seemed most *malignant. In one of his cases there was local recurrence a* year after removal of the tumor in the foot. In 6 of the total 93 cases there was metastasis in lungs, liver, etc. and recurrence was known in 21. He reiterates that the general assumption that tendon sheath tumors are benign growths must be abandoned except for the small ones on fingers. All others demand prompt removal and if adjacent tissues are involved testifying to extreme malignancy, amputation should be considered as for malignant disease in general.

Chronic Stomach Disturbance—Ehrstrom remarks that notwithstanding the roentgen rays, the stomach tube and the findings at operations there are certain cases of stomach disturbances in which no explanation can be found for the patient's complaints. On the other hand, grave organic lesions may develop without subjective symptoms. Krogius' compilation of 129 cases of perforation of a gastric ulcer included 15 in which the perforation was absolutely the first symptom to call attention to the stomach, and 8 in which there had been subjective symptoms for only from one to four weeks although in some the ulcer was hard and evidently of long standing. With symptoms typical of ulcer, the operation may show the stomach apparently intact, gastro enterostomy however cures the symptoms. The disturbance seems to be a chronic intermittent dyspepsia. (A similar article was briefly mentioned on page 88.)

The Arteries in the Kidneys in Relation to the Blood Pressure—In the 128 cadavers in which Wallgren paid special attention to the renal arteries nothing was found which conflicted with the assumption that the severe changes in the kidney vessels were due in large part to the high blood pressure that had prevailed during life. There was nothing to prove that the arteriosclerosis had preceded the hypertonia.

Lack of Water in the Tissues in Relation to Acetone Elimination—Ehrstrom noticed in a case in 1906 that after a period of profuse vomiting there was a strong odor of acetone on the breath. It subsided after saline infusion. Other experiences of the kind since have confirmed the connection between the condition of water deficit entailed by profuse diarrhea, repeated vomiting, etc. and the appearance of acetone in the breath and urine. In fever cases with much acetone his investigations always revealed that there had been unusually small intake of fluids. Increasing the

intake of fluids seemed to reduce the acetone. This sequence explains also the acetonuria in the insane refusing food, as they refuse food, the intake of fluids is proportionately reduced. The thirst and the polyuria in diabetes throw further light on this connection. Both the water deficit and the acetone excretion are linked with the excess of sugar in the blood, the tissues suffering from the lack of fluids and of carbohydrates. Ehrstrom's article has already been mentioned, p. 88.

Hospitalstidende, Copenhagen

April 1, 1922, 65, No. 9

*Influence of Exercise on the Temperature. C. H. Wurtzen and C. Holten.—p. 133. Begun No. 7, p. 101.

Influence of Exercise on the Temperature in the Tuberculous.—Wurtzen and Holten give 19 pages of the tabulated findings in regard to the stage of the tuberculosis and the fluctuation of the temperature after a 15 minute walk and after a 10 minute and a 5 minute walk as also in 27 healthy controls. The temperature showed some modification up or down in 52 per cent. of the tests on the normal after the 5 minute walk, in 64 per cent. after the 10 minute, and in 39 per cent. after the 15 minute walk. In the tuberculous the rise in temperature might occur a little earlier and last longer than in the normal, but the percentage affected was only from 15 to 27 after the 5 minute walk, from 27 to 45 after the 10 minute, and from 59 to 61 per cent. after the 15 minute walk. There is thus no regularity in the behavior of the temperature after exercise in either sick or well; no definite limit between the normal and the pathologic.

April 20, 1922, 65, No. 11

*Proportional Size of Lung and Chest. C. Lundsgaard and K. Schierbeck.—p. 173.

Lewandowsky's Nevus Elasticus. C. With and A. Kissmeyer.—p. 181.

The Proportionate Size of the Lung.—Lundsgaard reports that further research on twenty-seven normal adults has confirmed the findings previously published from study of a group of eighteen subjects. From the chest measure during maximal inspiration, maximal expiration and the middle position, the total volume, the residual air and the medium capacity of the lungs can be estimated and compared.

Ugeskrift for Læger, Copenhagen

April 13, 1922, 84, No. 15

*Roentgen Ray Therapy of Exophthalmic Goiter. J. F. Fischer.—p. 345. Concl. No. 16, p. 385.

Puzzling Roentgenograms of Stomach. A. Borgbjærg.—p. 362.

Dermatitis from Fur Dye. C. Rasch.—p. 365.

April 20, 1922, 84, No. 16

Ulcerative Gastritis. A. Borgbjerg.—p. 375.

Radiotherapy of Exophthalmic Goiter.—Fischer reviews his 490 cases. The improvement realized by the radiotherapy has persisted in the majority during the years since. His entire 490 cases included only eleven men. In 8 cases the thyroid had been previously resected. The interval from the first symptoms ranged from six months to five years in the majority and the age in all from 24 to 63. Fourteen cases are described with illustrations. The weight increases as the benefit is felt, a gain of 5 kg. is common and gains up to 10 or 20 kg. have been observed. Sweating and diarrhea were promptly arrested as also the glycosuria noted in 3 per cent. Tachycardia was the most constant symptom and this disappeared entirely in 25 per cent. and was materially modified in a further 50 per cent. In the others, the pulse kept at about 100 to 120 but the patients felt well. Exophthalmos was the hardest to influence of all the symptoms whether treatment was by raying or by operation, but it subsided completely in some. The effect was more pronounced the more recent the exophthalmos. In about a third of the patients, the goiter persisted, although the general condition had been very much improved. In the other two thirds the thyroid returned more or less completely to its normal size.

The soft goiters yielded soonest, the hard first became soft, and then slowly subsided. Recurrence was very rare in private patients, but certain working women had the symptoms return later, and a second course of treatment was given. Four cases are on record in Danish literature in which the patients died after roentgen exposures, and the radiotherapy was incriminated for the fatalities. But Fischer here reports two similar cases of suddenly fatal exophthalmic goiter differing only in that radiotherapy had not been applied. Otherwise the conditions seemed to be identical. All these fatal cases were in the severer forms of exophthalmic goiter and these forms call for extra caution. In the 30 cases of pregnancy while the women were under observation no influence on the gestation from the radiotherapy could be discovered, and the pregnancy did not aggravate the hyperthyroidism. In the severe cases the cross-fire dose was 3 H units, if this was borne well then 8 or 10 units a month later. The mild cases were given the latter dose to start with. In mild rudimentary cases the radiotherapy usually insured a permanent cure. If the roentgen treatment had not benefited in two or three months, it was considered useless to continue it. He says that the radiotherapy never renders an operation later more difficult. Stationary chronic forms should be given operative treatment on account of the danger of degeneration of the myocardium, radiotherapy is only the second choice in this group. The more recent the case, the greater the chance of cure under radiotherapy, which may be said to be quite harmless.

April 27, 1922, 84, No. 17

*Cholelithiasis. S. Hansen.—p. 405.

Gallstones.—Hansen declares that it is not a casual happening that there were only twenty-six deaths from appendicitis during a recent twenty-one months while there were forty deaths from cholelithiasis although the total of cases, 293, was much less than of the appendicitis cases. Appendicitis is treated rationally, the surgeon is called in early while delay in the differential diagnosis and expectant treatment wastes valuable time with gallstones. In nine of the forty cholelithiasis deaths the patients were in the medical ward. The bile ducts were normal in 43 per cent. of the 293 cases, cancer was found in the gallbladder in three cases.

May 4, 1922, 84, No. 18

*Diet in Tuberculosis. M. Hindhede.—p. 433.

*Micromethod for Chlorin in the Blood. P. Iversen and N. J. Schierbeck.—p. 454.

*Bangs Chlorin Micromethod. P. Iversen.—p. 456.

May 11, 1922, 84, No. 19

Shape of Chest. *Determines Shape and Position of Stomach. K. Fabricius.—p. 479.

The Diet in Tuberculosis.—Hindhede has long been the apostle of the advantages of a milk-vegetable diet. His dictum is *Stinkende ekskrementer* are incompatible with well-being. In this communication he emphasizes that no exception should be made for the tuberculous. Otherwise we handicap and cripple them in their fight with the disease. At Leysin Rollier has sanatoriums for all purses and those paying the highest prices are given meat, while in the cheaper establishments the fare, he says "out-Hindhedes Hindhede." But the statistics show, year after year, that the cures are more numerous and more complete in the less expensive than in the high priced quarters. Rollier told Hindhede that he is convinced that it would be to the great advantage of the tuberculous to drop meat from the menu. But he feared that if he did this his motives would be misconstrued. Hindhede presents further an array of data from various sanatoriums in Switzerland and Denmark which justify the conclusion, he says, that there is no evidence that a diet rich in meat and fat offers any advantage for the tuberculous.

Test for Chlorids in the Blood.—The Hagedorn and Norman-Jensen micromethod is applied as for sugar in the blood and the filtrate is tested for chlorin by the Vollhard method. This micromethod is not so simple as Bang's, but comparative tests showed that it is considerably more exact. The technic is described in detail.

The Bang Test for Chlorids in the Blood.—Iversen reports experiences which confirm that the Bang micromethod gives from 1 to 3 per cent. too low values for the chlorin content of the blood.

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BRONCHIAL LYMPHADENOPATHY, NONTUBERCULOUS*

E C FLEISCHNER M D

SAN FRANCISCO

The tremendous number of observations that have been made on tuberculosis of the bronchial lymph nodes during the last hundred and fifty years yields a literature fairly surcharged with experimental and clinical data An investigation of the work that has been done on the acute or subacute bacterial infections, on the other hand, is particularly striking on account of its paucity

Several explanations can be deduced for this interesting status It has been recognized, ever since the publication of Lalouette in 1780 (Traite des scrofules), and Leblond in 1824, that tuberculosis of the bronchial lymph nodes is a distinct disease Furthermore, Louis (1825), Laennec (1837), Fischer and others have emphasized the fact that tuberculosis is the most common disease of these lymph nodes and it occurs more frequently in them than in any other viscus of the body It must be remembered that this information has been largely gathered from postmortem examinations, so it is not surprising that so much attention has been focussed on it Acute and subacute infections of the bronchial lymph nodes have been studied by very few men, for the following fundamental reasons (*a*) necropsy material has always been very scarce, (*b*) when available, it has been so overshadowed by the associated lesions in the respiratory organs, that its importance has been overlooked, and (*c*) the diagnosis may for obvious reasons be considered most difficult, both as to classic symptomatology and physical signs

THE LITERATURE

It is highly interesting, in referring to certain fundamental facts that have been deduced concerning the anatomy and physiology of the bronchial lymph nodes, to review briefly some of the pioneer work that has been accomplished Modern medicine is too much inclined to take for granted the investigations of the eighteenth and nineteenth centuries, forgetting men whose efforts and studies should always be a source of great stimulation Becker, in 1826, following the researches of Mascagni and Cruikshank, divided the thoracic lymph nodes into (*a*) parietal and (*b*) visceral It remained for a Frenchman, Barety, however, so comprehensively and thoroughly to describe these glands, that, up to the present time, practically nothing has been added to his observations His description has become so classic that scarcely a reference can be found, either anatomic or clinical, that does not quote him in great detail He describes a tracheobronchial region that is comprised of all of the mediastinum except the heart It is bounded above by the superior opening of the thorax, below by a plane where the pulmonary veins empty into the left auricle It is limited in front by the sternum, behind by the vertebral column and laterally by the lungs Barety divides the mediastinal glands into three groups (1) pretracheobronchial right and left, (2) intertracheobronchial or subbronchial, right and left, and (3) interbronchial

1 The pretracheobronchial group of glands occupies the anteriosuperior side of the obtuse angle, which is formed externally by the trachea and principal bronchus They are situated on both sides, but hypertrophy and degeneration are found more commonly on the right

2 The intertracheobronchial or the subbronchial right and left groups of glands lie on the under surface of the main bronchus They are more numerous on the right than on the left side

3 The interbronchial groups of glands occupy the angle of division of the bronchial tubes They are found in the bronchial divisions up to the fourth order

The physiology of the lymph nodes is so intimately associated with pathology and bacteriology that their normal function has been extensively studied by investigators in these allied sciences Councilman, in the Harvey lectures, 1906-1907, in describing the changes in the lymphoid tissue in certain of the infectious diseases, stresses several salient facts In the masses of small lymphoid cells, particularly along the convexity are round or oblong foci of differentiated cells They were first described by His, and later more fully studied by Fleming, who regarded them as centers of cell production or germinal centers He especially emphasizes the fact that, in the study of the lymphoid tissues, one is impressed by a striking feature, i e, its preponderance in childhood They play an interesting role in the pathology of the tissue Oertel first demonstrated that, in diphtheria, areas of necrosis occur in the lymph nodes, corresponding to the germinal centers Similar changes are observed in scarlet fever, variola and other conditions

Manfredi, in an experimental study on the function of lymph nodes, found that they act against bacteria by (1) filtration, (2) diminishing the strength of the bacteria, whereby their virulence is partly or wholly lost, and (3) bringing into contact with the invading organisms the immune substances that are elaborated by the body in general Next to the skin and mucous membranes the lymph nodes act as the strongest barrier against bacteria Manfredi's experiments throw inter-

* From the Department of Pediatrics University of California Medical School

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esting light on the question of latency of bacteria in the lymph nodes, a subject to which too little attention has been paid in the study of infection and immunity He found that *Staphylococcus pyogenes-aureus* lived latently in the lymph nodes of guinea-pigs forty days and in those of dogs, thirty days, while *B typhosus* was present in guinea-pigs sixty days and in dogs thirty days Pneumococci that were recovered from the lymph nodes did not kill rabbits, the same organisms cultivated from the blood or spleen were fatal to rabbits Typhoid bacilli recovered from the glands lost their virulence for guinea-pigs, while the virulence of staphylococci and tubercle bacilli was definitely diminished by passage through the lymph nodes

Baumgarten found that, following the intravenous injection of tubercle bacilli, animals developed a generalized tuberculosis of the lymph nodes, and that only when the glands could no longer hold back the bacteria did they get into the blood stream through the veins and invade the other viscera He considered this highly presumptive evidence of the elective capacity of the lymph nodes to absorb circulating bacteria

Loomis, Kalbe, Piccini and many others were able to demonstrate by animal inoculation the latency of tubercle bacilli in the bronchial lymph nodes of people in whom there was neither macroscopic nor microscopic evidence of tuberculosis Kalbe, by cultivating and injecting lymph node material into animals, recovered streptococci, staphylococci, pneumobacilli and pneumococci, the last two of which were fatal in white mice in twenty-four hours, while the first two produced local abscesses in a number of instances Perez, in eighty-eight cases, found latent bacteria most frequently in the subcutaneous lymph nodes, then in the bronchial group, and least often in the mesenteric glands

The incidence of enlargement of the lymph nodes in childhood is so striking as scarcely to warrant statistical verification It may, however, be well to comment on the fact that Laser, in examining 2,506 children, found that those from 7 to 9 years of age had enlargement of the glands in 96 per cent of the observations, from 10 to 12 years, in 91 6 per cent, and from 13 to 14 years, in 84 per cent Baer, reporting on twenty-five new-born infants and 350 older infants and children, rather cynically stated that nearly all children had enlarged lymph nodes

In summarizing these investigations in an effort to determine their bearing on infections of the bronchial lymph nodes, the following facts assert themselves

1 Lymphoid tissue is strikingly predominant in childhood
2 The activity of the tissue can be judged by the presence of the germinal centers, which are rarely absent during this period
3 Enlargement of the lymph nodes in the child is so common as to be almost constantly demonstrable
4 Bacteria, in a latent stage, are present in many of these glands
5 The virulence of these organisms is frequently attenuated

It must, therefore, be strikingly apparent to all clinical observers that the lymphatic apparatus in childhood is constantly engaged in a system of defense against pathogenic organisms, whereby there is gradually developed for the body an immunity against these bacteria Only a slight realization of this stupendous function is necessary to make one appreciate the great incidence of infections of the bronchial lymph nodes

A careful survey of the literature bearing on the clinical signs of acute and subacute bronchial lymph node infections reveals the striking fact that it is extremely difficult to find records of observations sufficiently detailed to make a symptomatic diagnosis possible Zabel quotes no less an authority than Heubner, who states in his textbook that the disease picture in enlarged bronchial glands is uncertain, and no one symptom can be a guide to an absolute diagnosis

In an effort more definitely to stabilize the clinical manifestations of this important subject, a study has been made of a large number of cases in which physical examination and roentgen-ray findings have, as far as is possible, established the presence of an acute or a subacute bronchial lymphadenitis

CASE GROUPS

The cases divide themselves into five groups, which may be arbitrarily described as

1 Those in which malnutrition is the cardinal symptom malnutrition type
2 Those in which frequent colds or persistent cough is the primary symptom subacute bronchitis type
3 Those in which a pertussis-like cough is the most striking evidence pertussoid type
4 Those in which a low grade febrile course is the essential complaint chronic febrile type
5 Those in which there has developed persistent attacks of asthmatic bronchitis following an acute respiratory infection usually a pneumonia asthmatic type

It may be presumptuous to attempt a classification of this sort in a disease picture that has always been accepted as somewhat ambiguous In an effort to justify this classification, a more detailed outline of the typical history and symptomatology in each group is desirable

1 *Malnutrition Type*.—These children are brought for medical advice usually on account of their general appearance The most common complaint is that they have not looked well for a variable period, from several weeks to as long as from two to three years They are often below weight and give a history of not having gained for a long time The appetite is poor and the color pale Fatigue and languor are frequently a source of worry, and the complaint is elicited either that the child never cares to play or exercise, or that, if persuaded to indulge in this form of recreation, he becomes fatigued in a short time Digestive symptoms may develop, and one not infrequently hears that, incidental to his general lack of well being, the child has equivocal gastro-intestinal disturbances, for which there is no explanation Notation may have been made of a slight afternoon rise in temperature, although this is rare

2 *Subacute Bronchitis Type*.—The clinical picture in this class of case is somewhat variable Most frequently there is present a chronic cough, with which there is little, if any, expectoration The cough is liable to be more pronounced at night, although it is rarely severe enough to wake the child In other cases, the essential element is the marked frequency of infectious colds, in which, notwithstanding their mildness, the symptoms persist for a long time These children are much more liable to have a distressing cough with the upper respiratory infections, and when all other signs of an inflammatory process have subsided, the cough remains an irritating feature Any of the general evidences of toxemia present in the malnutrition

type, loss of weight, pallor, poor appetite or lack of energy, may be present

3 *Pertussoid Type*—From an historical and from a clinical standpoint, this group of cases presents the most fascinating characteristics In 1780, Lalouette, commenting on the symptoms in tuberculosis of the bronchial lymph nodes, called attention to the persistent cough, which was so changed in character that a diagnosis of pertussis was frequently made Leblond, in 1826, described this same cough in patients with enlarged bronchial glands Ley (1834) noted, in children with enlarged glands, attacks of violent coughing with a sonorous inspiration resembling whooping cough Verliac, in 1865, stated that if the spasmodic cough lasted too long after pertussis, bronchial gland disease must be suspected Daga emphasized the fact that the cough in bronchial gland involvement often returned in crisis, and that it was frequently spasmodic and had a peculiar sound, like the bark of a dog Finally Rilliet and Barthez commented on the fact that in these cases the diagnosis between pertussis and bronchial adenopathy was often difficult, if not impossible

A careful consideration of the histories of this type of case reveals some interesting observations It seems definitely possible to divide this group into several subdivisions, depending on the manner of development of the classic symptoms One striking feature of these subdivisions is that they seem strongly influenced by the nature of the etiologic agent Incidental to the epidemics of influenza that have been present during the last few years, cases of this type have been common They group themselves into two subdivisions (*a*) cases in which the pertussis-like cough has developed within a few days of the onset of the disease, and (*b*) cases in which this peculiar symptom has not become manifest for a considerable period of time, during which the essential symptom has been an ordinary cough incidental to the acute bronchitis

The children in the first group are taken ill usually with the symptoms of a mild upper respiratory infection, malaise, moderate rise in temperature, coryza and slight cough Within from two days to a week, these symptoms disappear, and the patient develops a cough which is at first described as harsh and barking and which rapidly becomes paroxysmal, developing a whoop so like pertussis as to make the differential diagnosis very difficult There are, however, several important distinguishing features in this type of bronchial gland disease, which usually make its differentiation from whooping cough possible (1) The paroxysmal character of the cough develops within a much briefer period, a few days instead of two weeks (2) The actual length of the paroxysm preceding an inspiratory whoop is shorter than in whooping cough (3) Vomiting, while present, is less common (4) Children exposed may develop the same syndrome, but often only show the signs of a mild upper respiratory infection (5) The course of this group of cases in which the characteristic whoop is developed in a few days is usually much shorter than in pertussis, the paroxysmal cough disappearing at times in from one to two weeks

The cases in the second group are as a rule more severe from the onset, and the symptoms of an acute bronchitis are more striking than those of the upper respiratory tract After the symptoms of acute intoxication have disappeared, the cough persists, and its intensity is out of proportion to the physical signs ascribable to changes in either the lungs or bronchial tubes The cough, which is at first harsh and barking in character, may retain this peculiarity, or may become distinctly paroxysmal and finally develop a typical whoop, which may last for many weeks or, rarely, for several months Slight afternoon rise in temperature is occasionally present and, depending on the degree of toxemia, any of the symptoms described in the malnutrition type of the disease may be in evidence

It is, by inference, perfectly apparent that all types of bronchial lymph node disease may develop following any respiratory infection in the pleura, lungs or bronchi, irrespective of the etiology There are, however, two distinct diseases following which the chronic pertussoid type of bronchial lymph node disease is extraordinarily common, namely, measles and pertussis The frequent incidence of this situation has been responsible for erroneous deductions, particularly on the part of the earlier clinicians See, in 1854, submitted a work in which he proposed to show the analogy which existed between pertussis and certain of the eruptive fevers, especially measles He contended that the cough, the fever, the catarrh and the contagiousness were comparable He based his contention on his own observations and on an historical study which showed that, since 1732, many had been impressed either by the simultaneous appearance of the two diseases or by the observation that pertussis frequently followed measles

In view of the fact that nothing was known at the time these conclusions were drawn concerning either the physical or roentgen-ray diagnosis of bronchial lymph node disease, and since, following measles, it is most common to find secondary infections of the bronchial glands with symptoms suggesting pertussis, it is not surprising that errors should have been made Many of the earlier writers were likewise struck by the similarity of the clinical picture of tuberculosis of the bronchial lymph nodes and pertussis, and descriptions were also given of cases of chronic pertussis lasting sometimes as long as from two to three years, with a characteristic cough As early an observer as Lalouette realized, in 1780, that this peculiar character of the cough was probably due to vagus irritation, but it was not until much later, in the middle of the nineteenth century, that the bearing of secondary involvement of the bronchial lymph nodes in pertussis was appreciated Noël Gueneau de Mussy, taking up the question of the analogy between bronchial adenopathy and pertussis, says

> I have already noted the pertussoid character of the cough in certain types of adenopathy It is difficult not to admit that this is due to a direct or reflex action on the vagus by the diseased glands I do not contend that in pertussis an adenopathy is the intermediary necessary for vagus irritation I believe though that in many cases the glandular involvement mixes its symptoms with those of the disease of which it is the complication I am disposed to attribute to pneumogastric irritation, by enlarged bronchial glands, the so-called cases of chronic pertussis, which last sometimes from two to three years Without affirming that the convulsive cough of pertussis which seems to point to an excitation of the vagus, is associated with an adenopathy, and without denying that this neurosis of the tenth pair of nerves can be a direct manifestation of the malady, one can at least point to the fact that the laryngeal spasm in pertussis occurs only several days and even weeks after the beginning of the pertussis and after the development of the bronchial congestion If one

can show that, at this point, signs of an adenopathy appear, the correlation of the two phenomena would be infinitely probable

Gueneau de Mussy's contentions grow much more probable and logical when one remembers the pertussoid cases previously described, in which the characteristic cough develops only a few days after the onset of influenza infections, in which by roentgen-ray and physical examination enlargement of the bronchial glands is definitely demonstrable

4 *Chronic Febrile Type*.—These are the cases which are the greatest source of concern to the family and the medical advisor. They are characterized by a low grade febrile course, usually without any subjective symptoms beyond those associated with a slight toxemia, such as pallor and languor. The condition may start as a mild upper respiratory infection, more commonly an influenza than any other, so benign in character that the mother is instructed to keep the child in bed until the temperature has been normal for from twenty-four to forty-eight hours. Much to the surprise of every one, the temperature does not reach normal and there is an afternoon rise in temperature of from a half degree to 2 degrees, rarely higher, that may last weeks, months and even years. At times, there are present the characteristic symptoms seen in any chronic infection. At other times, the well-being of the child is not disturbed in the least, and, eventually, the rise in temperature is ignored in the absence of other signs of infection.

5 *Asthmatic Type*.—Considerable exception may be taken by clinicians, particularly those interested in protein hypersensitiveness, to the assumption that there is a type of asthmatic bronchitis due to subacute infections in the bronchial lymph nodes. This is particularly so when one realizes that most children who suffer frequent attacks of asthmatic bronchitis develop enlargement of the glands, incidental to the absorption from the low grade inflammatory process in the bronchial mucous membrane. On the other hand, every one recognizes that there is a definite form of hypersensitiveness which evidences itself by bronchial spasm, in which the sensitizing protein is bacterial in character, and what focus, in view of the experimental work that has been done on the latency of bacteria in lymph nodes, can play a more effective role than the bronchial glands? Add to this evidence the fact that, in these children, a history is frequently elicited of attacks of asthmatic bronchitis beginning following an acute upper respiratory infection, usually a pneumonia, and the circumstances combine to make the hypothesis even to the most skeptical, a tenable one.

PHYSICAL EXAMINATION

In estimating the value of physical signs in the diagnosis of bronchial lymph node disease, it seems advisable to divide the upper portion of the thorax into four divisions, in order of their importance: (1) the spinal column between the seventh cervical and the fifth dorsal vertebrae, (2) the interscapular regions, (3) the superior sternal regions, including the sternoclavicular articulations, and (4) the regions to the right and left of the sternum between the clavicle, above, and the third rib, below.

1. It is to d'Espine of Geneva that the greatest recognition is due for his contribution of the most consistent physical sign in bronchial lymph node disease. This sign, which now so familiarly bears d'Espine's name, was first reported to the French Academy of Medicine in 1904, although the original observation had been made in 1889, while he was studying the early diagnosis of pneumonia of the upper lobe. One can do no better than to translate literally a short description of the sign as originally reported:

> The first signs of bronchial adenopathy are furnished exclusively by auscultation of the voice and by observing its character, nearly always in the region of the vertebral column, between the seventh cervical and the first (upper) dorsal vertebrae, either in the fossae under the spinous processes or lower down in the interscapular spaces. The sign consists in a timbre (quality) added to the voice, which one can call chuchotement (whispering in the ear or whispered pectoriloquy) in the first stage and bronchophony in a more advanced stage.

D'Espine comments further on his observations:

> In young infants, it is necessary to auscultate the quality of the crying voice. In a normal child, the characteristic bronchial breathing emanating from the trachea ends abruptly at the seventh cervical vertebra, where the lungs begin. In bronchial adenopathy this bronchial breathing extends to a varying degree into the space between the seventh cervical and the fourth or fifth dorsal vertebra, corresponding to the last part of the trachea and the bifurcation of the bronchi. Sometimes in extensive adenopathy, the bronchophony extends to the region of the lamina, more to the right than to the left. If auscultation of the spoken voice or the cry does not give a satisfactory result, one can try the whispered voice in children who cooperate and get an aphonic pectoriloquy (chuchotement). It has the same value as bronchophony. This bronchophony is the earliest and sometimes the only sign of bronchial adenopathy. In certain cases, however, one can also find, on percussion over the last cervical and upper dorsal vertebrae, definite dulness. Increased dulness in this region always coincides with intense bronchophony.

In a later contribution, d'Espine further emphasizes the value particularly of the whispered voice in eliciting his sign and says:

> The sign is most obvious if one makes the child speak or count in a low whisper. The voice is then accompanied by an added whispering sound localized to one or two vertebrae or possibly extending to the fourth or fifth. Bronchial breathing over this area has the same diagnostic value except that it is an indication of more extensive enlargement.

It may be advisable, in briefly commenting on d'Espine's original article, to call attention to the fact that some confusion has occasionally occurred on account of errors in translation. If care is not taken in translating "les premieres vertebres" referring to the upper dorsal, in the plural, the whole sense of the observation is lost. As a matter of fact, it is fairly generally recognized that, in older children, it is within normal limits to have what appears to be a positive sign over the seventh cervical or first dorsal vertebra without enlargement of the bronchial glands. Koranyi stressed this point and contends that pectoriloquy is only indicative of large lymph nodes if it occurs below the seventh cervical vertebra in young children, below the first dorsal in those 8 years of age, the second dorsal in those of 12, and the third dorsal in children 15 years old. The sign is brought out much more clearly if the child is instructed to bend the head slightly forward and fold the arms in front of the chest.

2. The spaces between the spine and the scapulae, even though their importance has been discredited by the French school, offer interesting and frequently striking evidences of bronchial gland disease. Dulness in this area, with characteristic auscultatory changes, is of greatest diagnostic value. The breath sounds,

particularly expiration, are prolonged and harsher than normal, and at times bronchovesicular or even bronchial breathing may occur In simple bronchial lymph node disease, without an accompanying bronchitis, adventitious sounds are conspicuously absent

3 Barety, whose epoch-making thesis on disease of the bronchial lymph nodes has already been discussed, lays special emphasis on the importance of the superior sternal regions in physical examination He briefly quotes Fonssagrives, who, in 1861, first described the percussion of the superior sternal region in tuberculosis of the bronchial lymph nodes, and noted the presence of dulness at the sternoclavicular articulation, although he did not appreciate its importance Whereas dulness in the superior sternal region is a characteristic sign in enlargement of the bronchial lymph nodes, it can be definitely stated that in the series of nontuberculous cases on which this communication is based, its incidence was definitely less frequent than either d'Espine's sign or interscapular dulness

4 Changes in the regions to the right and left of the sternum between the clavicle and the third rib are not encountered as often as those previously described, but when present they are, to say the least, most striking Dulness often begins at a definite point to the right and left of the sternum, and increases as the midline is approached The limit of this dulness to the right or left can often be definitely marked by dropping a line from the clavicle, either at its midpoint or at the junction of the middle and inner thirds, to the third rib

Auscultation over this area shows usually prolonged and harsh respiration, occasionally in both stages, but more frequently confined to the expiratory murmur The degree of this may be so great as to make the breathing bronchovesicular or even bronchial In some cases, on the other hand, the most striking sign is diminished breathing At times, this diminished breathing may be bronchovesicular in character Rales, in this region as in the interscapular space, are usually absent, except in the presence of bronchitis

ROENTGEN-RAY DIAGNOSIS

It is not within the scope of this paper to enter into a full discussion of the problem of the roentgen-ray diagnosis, but accuracy in estimating the extent of bronchial lymph node involvement is so essential that certain details of the value of the roentgen ray must be considered In establishing a positive diagnosis of bronchial lymphadenopathy, it is certain that the roentgen-ray examination is of less importance than either the history or the physical examination, but as an adjuvant its value cannot be overestimated Furthermore, stress must be laid on the fact that there will always be cases of unexplainable malnutrition in which there is an absence of physical signs, and in which roentgen-ray examination and that alone will establish a positive diagnosis

TUBERCULIN REACTION

It is perfectly obvious, without further comment, that the great problem in the management of this interesting disease is the exclusion of tuberculosis Without entering into an argument as to the relative value of the Pirquet and intradermal reactions, it will suffice to quote no less an authority than d'Espine, who says, "Von Pirquet's sign, which I use daily, will settle the question" There can be no question that, in a vast majority of cases, this conclusion is correct If doubt persists in spite of a negative Pirquet reaction, the problem can be further elucidated by the application of the intradermal test

TREATMENT

The treatment of nontuberculous bronchial lymphadenopathy may be discussed under three main headings rest, fresh air and diet The details must vary with the individual case The importance of avoiding fresh infection, particularly exposure to tuberculosis, cannot be overestimated In a general way, it may be positively stated that there is no disease, the management of which is so difficult, on account of its tediousness, for both the mother and the physician On the other hand, it is difficult to imagine any condition in which the results are as brilliant, if the family is made to realize that a disease is being combated in which the results are essentially slow, even though the outcome is practically always favorable The role of drugs in the general management of these cases is, to say the least, a secondary one Nothing further need be said on this phase of the subject, beyond calling attention to the fact that iron, iodin, cod liver oil and a few other less important preparations have been recommended In cases with secondary anemia, they may be of some value, but even here it is doubtful whether better results cannot be accomplished by simple hygiene and dietetic measures As in the treatment of lymph node disease in the cervical region, too much emphasis cannot be laid on the importance of removing foci wherever they exist It may be well briefly to outline certain variations in the treatment, depending on the character of the individual case In the malnutrition type of the disease, children must be kept in bed in the fresh air, preferably out of the city, until they are running a normal temperature, and until the behavior of their weight curve is such that one can be sure that the infection is under control The treatment is a matter often of several months' duration When it seems advisable to permit more liberty, the gradual assumption of the following regimen will be found most advantageous (1) breakfast in bed, (2) arise at 10 o'clock, (3) rest one hour after mid-day dinner, (4) retire at 5 o'clock, (5) supper in bed, (6) at least twelve hours' sleep at night How long these children must be kept out of school it is difficult to say It is better that the child be absent from school too long than too short a time In severe cases, the patient must be excluded from school at least a year The reasons are obvious enough when one realizes how susceptible these children are to fresh infection The diet in these cases must be a general one, except that it has been found beneficial to insist on the daily consumption of a quart of milk in all cases in which there is no idiosyncrasy

The management of the pertussoid type of cases requires certain special methods of treatment The degree of rest in bed depends on the temperature curve Any of the drugs used in pertussis, belladonna, antipyrin or bromid, may prove of value, and, above all, the use of opium, particularly to prevent the irritating cough at night, which disturbs the sleep, is to be recommended If the child vomits after eating, the mother must be instructed to feed him immediately, because no one element in these cases is so conducive to a chronic course as loss in weight The methods of treatment outlined for the malnutrition and pertussoid type of case may be combined in handling these children in whom bronchial gland involvement is responsible for repeated or lasting upper respiratory infections, par-

ticularly bronchitis The management of those cases running a chronic febrile course depends essentially on the stage of the disease at which the patients are first placed under medical observation If they have been treated for an acute upper respiratory infection, particularly an influenza, and it is found after several days that a low degree afternoon temperature is persisting, they should be kept in bed until the chronicity of the temperature is well established This direction may sound ambiguous, but it entails an absolute certainty that the general well-being of the child is not suffering as a result of the infection which is responsible for the rise in temperature If there is progressive loss in weight or failure to gain, or if a secondary anemia develops which does not improve, absolute rest in bed is indicated Otherwise, after two or three weeks' observation, these children should be gradually gotten up, following the scheme previously described in the treatment of the malnutrition type of case, and, eventually, in spite of their slight rise in temperature, which may last for months, they should be allowed to lead their normal lives and attend school

The thermometer should be discarded because, if it is not conducive to the development of a neurosis in the child, it is in the mother, which is quite as serious These children should, however, be seen by their medical advisers often enough that the latter may be certain that the chronic infection is in no way interfering with the general progress, the best criterion of which is normal gain in weight Nothing beyond the general measures previously recommended can be advised in the treatment of the asthmatic type of bronchial lymphadenitis except the use of bacterial proteins, the specificity of which has been determined by previous skin tests

CONCLUSIONS

1 Simple bronchial lymphadenitis, acute, subacute or chronic, is a distinct clinical entity in childhood

2 It may be divided into five definite types, based on the clinical history and cardinal symptoms 1 Malnutrition type 2 Subacute bronchitis type 3 Pertussoid type 4 Chronic febrile type 5 Asthmatic type

3 When one considers the great incidence of respiratory infection to which bronchial lymphadenitis is secondary, the general conclusion can be reached that this type of disease, in contrast to tuberculosis, is the most common disease of the bronchial lymph nodes

4 The diagnosis must be made by a combined consideration of the history, physical signs and roentgen-ray interpretations

5 The most important question for differential diagnosis is the possible presence of tuberculosis, which can be established by the use of tuberculin

6 The treatment may be briefly summarized under three heads rest, fresh air and diet

7 With accuracy in diagnosis and careful observation in the details of treatment, the prognosis is invariably good, unless a secondary infection takes place with the tubercle bacillus

350 Post Street

Complement Fixation in Exophthalmic Goiter—*The blood of some patients who show symptoms of exophthalmic goiter binds complement in the presence of an antigen made from normal thyroid glands* The reaction may be due to a specific thyroid substance which combines with an antibody in the blood of the patient—J Koopman, *Proc New York Path Soc* **21** 55 (Jan-May) 1921

MEDICOLEGAL APPLICATION OF THE BLOOD GROUP

J ARTHUR BUCHANAN, M D
PUEBLO, COLO

The danger of using the blood group as a means of determining parentage in cases of suspected or known illegitimacy arises from the difficulty in establishing the origin of the particular blood group in each instance The danger rests solely in the transmission of an unexpected blood group through the germ plasm of a heterozygous parent The heterozygous status of a parent cannot be foretold today, except by a study of the offspring

The criteria established by Ottenberg [1] to govern the medicolegal application of the blood group are incorrect in some instances, and based on insufficient evidence in others They would lead frequently to the miscarriage of justice when applied by a court in the adjustment of a dispute concerning parentage The families used by Ottenberg in formulating his criteria are too small in most instances to justify any conclusions

Ottenberg has established certain definite laws in connection with the blood group by means of which he contends that the legitimacy of children can be determined

1 If a child is in Group II, III or IV, when its parents are both in Group I, the child is illegitimate

2 In unions of Group I and Group II if a child is in Group III or IV, it is illegitimate

3 In unions of Group I and Group III if a child is in Group II or IV it is illegitimate

RESULTS OF CROSSING GROUP I WITH GROUP I

In a previous communication [2] on this subject, I published eight charts, which were representative of eight actual families The blood of the families was grouped by myself The Moss classification was used The Group I of Jansky is the Group IV of Moss The blood group of the family represented in Figure 1 of my previous paper, when classified according to the Jansky classification, shows, although both parents are in Group I, that there are two children who are in Group III, and four children who are in Group I At that time I had completed grouping the blood of a family in which by the Jansky classification both parents are in Group I, but their twin daughters are in Groups I and II Somewhat later, in grouping the blood of the Tink family,[3] I discovered two parents in Group I of the Jansky classification Three of their children are in Group IV, and one child is in Group I

In a family whose blood I have grouped, both parents are in Group II, but three of their children are in Group II and one child is in Group I The grouping of the blood of the grandparents in this family shows that the Group I could have arisen from either the maternal or the paternal side, as the parental stem on both sides consists of a cross between Groups I and II

MEDICOLEGAL SIGNIFICANCE OF THESE FINDINGS

The first law of Ottenberg is invalid, as unions of Group I can result in children whose blood may be in

1 Ottenberg Reuben Medicolegal Application of Human Blood Grouping J A M A **77** 682 (Aug 27) 1921 Hereditary Blood Qualities J Immunol **6** 363 (Sept) 1921 Medicolegal Application of Human Blood Grouping J A M A **78** 873 (March 25) 1922

2 Buchanan J A Medicolegal Application of the Blood Group J A M A **78** 89 (Jan 14) 1922

3 Buchanan J A A Consideration of the Laws of Heredity and Their Application to Various Conditions in Man to be published.

Group I, II, III or IV It is clear, since a Group I crossed with a Group I gives rise to groups other than itself, that it is unreasonable to contend that a Group I crossed with a Group II or Group III should not result in children in either Group I, II, III or IV The groups possible in the offspring of any union depend on the groups present in the previous generations, and the heterozygous or homozygous status of the parents of the generation under consideration

The blood groups possible from unions of Group III with Group III are undetermined, as there are not sufficient families on record in which this cross has been studied to justify any statements From a study of the families in which it has been found that unions of Group II may result in children in Group I, and that unions of Group I may result in children in Group II, the suspicion has been aroused, since Group I parentage may transmit a Group III to the children, that Group III parents may transmit a Group I to the children More crosses of Group III with Group III must be studied

SIGNIFICANCE OF THE FAILURE OF THE CRITERIA OF OTTENBERG

The criteria of Ottenberg are built up on the belief that unions of Group I can breed only Group I children, and, when that belief is shown to be false, the theory on which he based his conclusions becomes untenable The theory is still more erroneous in light of the knowledge of the segregative properties of the germ plasm Ottenberg contends, as do many others, that Group IV is the result of the union of certain specific substances on which Groups II and III depend If this theory is correct if the blood group is hereditary, and if the theory of heredity is correct, all unions of Group IV, because of the segregative function of the germ plasm, would result in children who are in Group IV, Group II and Group III, as happens in the second filial generation of all plants, fowls and animals in which an hereditary character has been studied The fundamental factors which enter into the make-up of the parents are segregated in the children Unions of pure Group IV are on record

The incorrectness of the statement of Ottenberg[4] that he could foretell the parents by studying the children resulting from unions of Groups IV and I is shown in the seventy-second family of von Dungern and Hirschfeld, the twenty-ninth and thirty-eighth families of Learmouth,[5] and in the Tink family[3] of my own investigation The union of pure Group IV and pure Group I of the Jansky classification results in children in Group IV and Group I, in the ratio of three of the former to one of the latter Unions of heterozygous Group IV and heterozygous Group I result in the reappearance of the groups present in previous generations, as well as those present in the parents of the children under investigation, provided there are a sufficient number of children to permit of all the possible groups being segregated

The entire data concerning the families on which my conclusions are based will be published in the near future[3] Each family is uninvolved by any question of illegitimate children My findings are in accordance with all the results of studies of the blood group in families that have been published, but by using a fairly fixed standard sized family, and by carrying the grouping into the third generation and even into the fourth, I was able to determine what groups might occur from most of the possible crosses of the blood group The results show the fallacy of the theories concerning the two specific substances on which the blood group has been supposed to depend The interesting studies of Learmouth show that the old theory of the two specific substances for the blood group and the mendelian inheritance of the blood group are at variance The blood group is either not hereditary, or the laboratory experiments concerning the specific substances responsible for the blood group are being misinterpreted The blood group follows in its transmission between generations the two laws of Mendel

SUMMARY

The criteria of Ottenberg to govern legitimacy by means of the blood group are dangerous The blood group cannot be used in the adjudication of medicolegal disputes concerning parentage without carrying the grouping back at least three generations, and even then there exists the possibility, because of the heterozygous status of a parent, of an unexpected, yet legitimate, group appearing without its definite origin having been determined

4 Ottenberg Reuben Footnote 1 third reference
5 Von Dungern and Hirschfeld Ztschr f Immunitatsforsch Orig 6 284 1910
6 Learmouth J R The Inheritance of Specific Iso-Agglutinins in Human Blood J Genetics 10 141 148 (Aug) 1920

OBSERVATIONS ON THE ETIOLOGY AND PATHOLOGY OF CHOREA MINOR*

LOUIS C SCHROEDER, M D
NEW YORK

Far reaching as have been the advances in modern methods of clinical and laboratory investigation, it cannot yet be said that a definite answer has been found to the problem of chorea minor To the older physicians it was a functional disorder of the brain, while to a younger generation, it may be of an infectious, a rheumatic, an organic, a toxic or even a syphilitic origin Evidence may easily be found to support any of the above theories

The disorganizing confusion which arose from classifying as chorea every morbid process which had as a distinguishing feature athetoid, bizarre or purposeless movements has, happily, long since been dispelled To that extent our problem is easier, but much unexplored ground remains to be covered before we can truthfully say what the actual causative factor is and what pathologic processes ensue

In discussing the pathology of chorea minor, Poynton and Paine[1] emphasize the fact that we must not be satisfied with the plain statement that chorea minor may be the first manifestation of acute rheumatic fever but must actually link them together as part and parcel of the same process They further state that it will be a distinct advance in our knowledge when the answer to this is finally determined

A step forward was made when Aschoff described the so-called submiliary nodules of rheumatic fever These, it may be recalled were focal lesions, most frequently found in the walls of the left ventricle and characterized by fan-shaped collections of giant cells,

* From the New York Nursery and Child's Hospital and the Department of Pediatrics Cornell University Medical College
* Read before the Section on Diseases of Children at the Seventy Third Annual Session of the American Medical Association St. Louis May 1922
1 Poynton and Paine Researches on Rheumatism London J and A Churchill 1913 p 257

recalling to some extent the giant cells of similar shape which Dorothy Reed has described in Hodgkin's disease

Besides these large cells, there are lymphatic and neutrophilic leukocytes as well as some containing eosinophil granules, concerned in the building up of the nodule These infiltrations of small cells are continued as streaks into the surrounding tissue The rheumatic nodules which are grouped around vessels are very small

In the great majority of all his cases of valvular disease, Aschoff [2] "found no fresh inflammation at all, but only more or less numerous perivascular fibrous nodules, which are, in all probability, to be regarded as the healed remnants of the rheumatic nodules"

Coombs [3] agrees that these submiliary nodules are food for much thought He believes that it cannot be doubted that they are inflammatory in type and represent the reaction of the connective tissue to an infection rather than an intoxication only, and that the infective agent itself comes in contact with the tissues at the points where the nodules form He examined a number of hearts from cases of pneumonia, malignant endocarditis and suppurative pericarditis without finding anything at all like an Aschoff nodule

Confirmation of these findings of Aschoff has been made by a number of observers abroad, especially Fraenkel,[4] who believes that, even in the absence of a history of rheumatic fever, the finding of Aschoff nodules is strong presumptive evidence of a preceding rheumatic infection Rothschild and Thalheimer,[5] in their conclusions, make the definite statement that in rheumatic myocarditis, foci, termed submiliary nodules of Aschoff, are present, which are characteristic of the rheumatic infection

Bearing this fact in mind, the following case report is of extreme interest

REPORT OF CASE

History—G R, girl, white, aged 20 months, was brought to the New York Nursery and Child's Hospital by her mother because of irritability and rapid breathing The parents were in good health, although the mother had had acute rheumatic fever involving both knees The maternal grandfather was reported as having had "rheumatism" One other child was alive and well, and there had been no miscarriages

The infant had been born at term, and the delivery was normal She had been breast-fed for one year and then put on the usual mixed diet Up to the present illness, her general health had been good

Six weeks before, she had become very irritable For three days fever was present, and the family physician made a diagnosis of sore throat with a secondary adenitis A throat culture was negative for diphtheria The irritability continued, though the other symptoms subsided

Five days before admission, the mother noticed that the child was breathing very rapidly, and for that reason brought her to the hospital

Examination—The salient features of the physical examination were a markedly enlarged heart, a systolic and an early diastolic murmur, a breathing rate of eighty a minute a greatly enlarged liver, a slightly enlarged spleen, a red throat, and a temperature of only 99 F

Fluoroscopic examination ruled out pericardial effusion and all disease of the lung

During the first six days in the hospital, the only changes noted in the physical condition were the development of an inconstant to and fro friction rub in the third left interspace, a slight diminution in the size of the liver and a slight edema of the face No petechiae were noted, there was no cyanosis and the blood culture was negative

The spinal fluid was clear and under no increased pressure, and no globulin was found The cells numbered 10 per cubic millimeter, and were all lymphocytes The blood examination revealed a leukocytosis of 25,000, with a differential count of 69 per cent polymorphonuclears 21 per cent small lymphocytes and 10 per cent large lymphocytes

It was the general opinion that we were dealing with an acute endocarditis and pericarditis, the origin of which was uncertain

Course—On the seventh day of her stay in the hospital, the patient developed a typical chorea minor, and the temperature, which had never gone above 100 F, rose to 101 5 F We are not insensible to the difficulties often attendant on the correct diagnosis of true chorea in infancy, and we shall obey Sturges'[6] injunction that every case thus diagnosed needs the guaranty of a full description

On the morning of the seventh day, it was noticed that the right arm was moved over the covers in a jerky purposeless, incoordinate manner Later on the same day, the movements were noted in the left arm The following day, both lower extremities were in a state of constant incoordinate movement The facial muscles exhibited peculiar grimaces and the shoulders were shifted about in an unmistakable manner They were not the restless movements of a sick child

These pronounced motor disturbances continued with varying severity until a fatal termination, three days later At no time were any subcutaneous nodules seen, and they were searched for diligently, nor was there at any time evidence of joint involvement

Pathologic Findings—Two blood cultures having been negative, we were forced to the conclusion that the case was one of true rheumatic carditis and pericarditis This diagnosis were borne out at necropsy for the heart and pericardium were both involved, the mitral valve showing a number of very small vegetations, while the pericarditis, which, as is well known, is almost always of a rheumatic type in childhood, was nonpurulent

Microscopic examination of the heart muscle revealed typical Aschoff nodule cells, although the arrangement of the majority of them was not fan nor rosette shape owing probably, to the short course of a fulminating infection

Unfortunately, permission to examine the brain could not be obtained

COMMENT

Since the middle of the last century, when Germain See first offered evidence that chorea minor and rheumatic fever were allied, and Roger, a few years later, grouped chorea, rheumatism and endocarditis together in the phrase "la choree rheumato-cardiaque," all pediatricians have had occasion to verify their conclusions Cheadle [7] quotes Trousseau as being the first to recognize a rheumatic sore throat, and, since that time, evidence has piled up which definitely links tonsillitis with rheumatic fever, and further proves that the sore throat as a rule precedes the acute attack

All of these observations do not explain the cases of chorea which give no sign of rheumatism These cases have been the great stumbling block to our full acceptance of the theory that chorea is mainly rheumatic in origin

The case reported, occurring at an age when both chorea and rheumatism are extremely rare, tends to strengthen the belief that sore throat should be looked on as a possible manifestation of rheumatic fever, and that chorea minor should be considered, at least in childhood, as definite evidence of a rheumatic infection

2 Aschoff L Verhandl d deutsch path Gesellsch **8** 46 1904
3 Coombs C Rheumatic Myocarditis, Quart J Med **2** 26 1908 1909
4 Fraenkel E Beitr z path Anat u z allg Path **2** 597 1912
5 Rothschild M and Thalheimer W On the Significance of the Submiliary Nodules of Aschoff in Rheumatic Fever J Exper Med **19**, No 5 1914
6 Sturges O Chorea in a Child Under Three Lancet **1** 109 1888
7 Cheadle W B The Rheumatic State in Childhood London 1889

The most recent advances in our knowledge of the pathology of chorea minor are undoubtedly due to the impetus given by a more correct understanding of the physiology of the basal ganglions Lesions of this area may certainly cause involuntary movements of the skeletal muscles, as has been shown by Hunt [8] Wilson's [9] earlier work also proved that many involuntary motor movements were due to a lesion in the corpus striatum

Another factor which has helped in our understanding of the pathology of chorea minor has been the interesting histologic studies of the brain in epidemic (lethargic) encephalitis Alfaro [10] believes that chorea is the result of the action of bacterial poisons on the basal ganglions, particularly the striate body He assumes that there is an encephalitis due to a rheumatic poison

One of the most interesting contributions is an exhaustive study made by Marie and Tretiakoff [11] of the nerve centers of a 10-year-old girl who died at the height of an attack of chorea They describe a typical encephalitis, involving to a slight degree the cortex, but showing marked and distinct changes in the corpus striatum The only condition from which their findings were indistinguishable was epidemic encephalitis

Schuster [12] reports four cases of chorea, in all of which the patients had an encephalitis, the chief lesions occurring in the thalamus and the red nucleus

These findings are distinctly helpful in localizing the major pathologic changes We may not agree that in the majority of cases such marked organic lesions occur, but it cannot be doubted that in those areas there are certain happenings which give us the typical picture of chorea minor

It is conceivable that an encephalitis may be of such a transitory nature that it leaves no permanent damage, but when we seek support for this theory in the spinal fluid we are distinctly disappointed, as the majority of investigators report negative findings

Quigley [13] has succeeded in getting positive cultures from both the blood and the spinal fluid in ten out of twenty-one cases and from either one or the other in fourteen cases There was no increase in the cell content, and the globulin findings were negative

Cobb [14] raises an objection to the organic theory, stating that there can be no doubt that chorea may follow fright or sudden emotion, but he asks the question whether or not an organic lesion, previously without overt symptoms, is suddenly able to be activated by an emotional shock He believes that the records of many cases go to prove that it must be considered a reasonable possibility, although the physiologic and pathologic mechanisms are not understood

If we accept the foregoing suggestion, which explains not only the cases of chorea minor due to shock but also those of chorea gravidarum, we are entitled to consider chorea minor as the manifestation of the action of toxins on the brain, particularly the basal ganglions

These changes may produce a mild epidemic encephalitis, which usually does not but may cause permanent organic changes, and, in certain individuals, especially females, leaves on the personality, as Cobb says, "such indelible impressions of mental anguish of having lived through a period of lack of motor control that if in later life, this individual is to have a psychosis, it may more easily take the form of chorea than any other type of symptomatology"

SUMMARY

Aschoff nodules have been demonstrated in the heart muscle of a 20-months-old child who had chorea and a fulminating rheumatic carditis and pericarditis

Advances in the study of the physiology of the basal ganglions make it seem likely that the chief pathologic changes in chorea minor occur there

39 East Sixty-First Street

ABSTRACT OF DISCUSSION

DR H F HELMHOLZ, Rochester, Minn The studies that have been made in large series of cases of encephalitis have thrown a great deal of light on the study of the so-called rheumatic cycle in its neurologic manifestations The definite localization in the basal ganglions in encephalitis, particularly those in the lenticular nucleus, has produced a syndrome which in the acute stage, is indistinguishable from what we call chorea It is interesting to note that in a great number of these cases the choreic manifestations persist for only a short time They seem to be only a transient stage We have observed this last year a number of residues of encephalitis involving the basal ganglions In about two thirds of these cases we have had a definite history of an attack of choreiform movements lasting usually for a period of several weeks and then clearing up the patient being perfectly well for a time and then having a secondary involvement which led ultimately to the so-called parkinsonian syndrome In chorea, we are unquestionably dealing with an infection and just as it is difficult to isolate the organism from the joints and heart valves so it is difficult to isolate the organism in the brain In the literature of encephalitis the world over, we find that many observers have been able to isolate organisms from patients who died of encephalitis, and have also been able to find those organisms in the area of inflammatory reaction So it is not surprising that it is difficult to isolate organisms in chorea There is no question that we are dealing with an encephalitis due to a specific organism which has a tendency to localize in the basal ganglions, but we also have very marked psychic disturbances which may indicate that there is involvement elsewhere It may be that these changes are the cortical changes described by Marie I wish to emphasize the importance of a careful histologic study of all cases of chorea that come to necropsy

DR H W CHENEY, Chicago Clinical experience bears out the fact that infections are the cause of chorea, and my habit has been to look for the focus of infection in all cases and I usually find it One point is that, while the tonsils may be responsible for some of the cases I have seen cases recently in which the only apparent sources of infection were bad cavities in the children's teeth and the removal of those teeth cleared up the disease promptly and well While the treatment was not brought out in the paper, bad cases of chorea can be controlled without the use of opium or bromids by administration of sufficient acetylsalicylic acid I give several doses daily up to 10 grains at a time That will control the involuntary movements

DR WALTER E SIMMONDS Chicago With regard to the use of acetylsalicylic acid in some experiments which are running parallel to the ones we did on arthritis in rabbits we found that when we gave acetylsalicylic acid, inflamed kidneys resulted So in the treatment of chorea I would hesitate to give this drug I find that these patients respond quite as well to the arsenical preparations

8 Hunt J R Brain **40** 58 (May) 1917
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11 Marie P and Tretiakoff C Examen histologique des centres nerveux dans un cas de choree aigue de Sydenham Rev neurol **36** 428 (May) 1920
12 Schuster H Beitrage zur Histopathologie und Bakteriologie der Chorea infectiosa Ztschr f d ges Neurol u Psychiat **59** 332 1920
13 Quigley W J Observations on the Bacteriology of Chorea J Infect. Dis **22** 198 (Sept.) 1918
14 Cobb S Some Neurological Aspects of Chorea M Clin s N America **4** 1263 (May) 1921

Dr. Louis C Schroeder, New York What should be particularly interesting is to get an uncomplicated case of chorea with the demonstration of Aschoff bodies in the cardiac musculature

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GASTRIC FINDINGS IN CHILDREN WITH ANOREXIA *

L W SAUER, M D, L D MINSK, M D
AND
W G ALEXANDER, M D
EVANSTON, ILL

Much has been accomplished during the last few years with the child who is chronically underweight for his height Through the efforts of Emerson[1] and others the relation of "malnutrition" to physical defects, improper food habits, overfatigue and errors of home and school life has been pointed out Many underweight children have been made "free to gain" by the removal of these handicaps

In our clinical work with the underweight child, we occasionally encountered children who, although rendered free to gain, failed to increase in weight on account of a persistent anorexia These children with poor appetite ate less than the required number of calories and were underweight because they ate insufficiently Physical and laboratory examinations showed them to be free from tuberculosis, anemia, physical defects, diseased tonsils, adenoids and other known causes of anorexia Their diets were like those on which our other underweight children thrived, containing an abundance of accessory food factors Cases of poor home environment or lack of cooperation of parent or child are not included All but three children had brothers or sisters who ate well They were given only three meals a day, avoiding excess of fats

TABLE 1—GROUP A CHILDREN WITH GOOD APPETITE

No	Name	Sex*	Age Yrs	Weight Pounds	Per Cent Under weight†	Stomach Empty In	Acid Total	Acid Free	Date‡
1	R A	♂	7	50¼	+10	5 hr 4	80 47	34 21	12/ 6/21 3/28/22
2	S L	♀	8	50	1	5 5	30 40	6 4	12/16/21 4/ 1/22
3	B L	♀	7	56	0	5 3½	[illegible] 68	24 30	12/16/22 4/ 1/22
4	C B	♂	8	49½	5	4¼ 3½	90 46	34 22	12/16/21 3/25/22
5	H H	♀	9	65	+6	5 4½	31 38	23 10	12/28/21 4/ 1/22
6	I M	♀	11	74½	+3	3½	55 67	23 24	12/28/21 4/ 1/22
7	H A	♂	7	47¼	9	4½	64 45	30 17	12/28/21 3/25/22
8	S L	♂	8	50	5	4 4½	74 72	42 36	12/28/21 4/ 1/22
9	G M	♂	7	63	+14	4	73 69	40 31	12/30/21 3/25/22
10	J W	♀	8	54½	10	4	64 72	26 35	12/31/21 4/ 1/22
11	N D	♂	7 5/12	54	+9	4 4½	55 51	18 19	1/ 4/22 3/25/22
12	F P	♂	7	46	4	5	44 47	10 16	1/14/22 4/ 1/22

* In this column ♂ indicates male ♀ female
† Computed according to the average weights for heights of Boas and Burke
‡ Date refers to gastric analysis roentgen ray examinations were made several days earlier

The present study deals with the gastric motor and secretory functions of two groups of children Group A, twelve normal children with good appetite, Group B, twenty-one more or less underweight, but otherwise normal, children with poor appetite

Observations were made on the former group in order to establish a basis for comparison Observations were repeated (*a*) in a number of subjects of both groups after a few days, (*b*) in most subjects of both groups after a lapse of several months

The early repetition was deemed necessary to detect any variations which might be due to technic or to individual variations which might occur from day to day The repetitions, some months later, served to show any variations which might occur after such a lapse of time, as well as changes which might occur when improvement had taken place

METHODS

The motor meal[2] consisted of 240 c c of warm milk, 30 gm of barium sulphate, 4 gm of sugar and two slices (45 gm) of white bread (without crust) These were well mixed, and fed at 9 a m , following a fast of about fifteen hours The entire meal was given within fifteen minutes Serial films were taken four hours later, and each succeeding hour, until the stomach was empty The pictures were taken with the subject prone on the cassette, with the tube at the back The subjects were kept more or less occupied with games and ordinary indoor activities, and were not permitted to take anything by mouth or to lie down (except for the roentgen-ray examination) until the examination was concluded

TABLE 2—GROUP B CHILDREN WITH ANOREXIA

No	Name	Sex	Age Yrs	Weight Pounds	Per Cent Under weight	Stomach Empty In	Acid Total	Acid Free	Date	Inches Below Aver
1	I R	♀	2½	24	7	7 hr			9/30/21	
2	A S	♂	6½	39	17	7			11/11/21	
3	M G	♀	6	41	5	7 8	55	16	11/ 2/21 12/27/21	
4	K B	♂	6½	42 45	3½	7 [illegible] 5½	37 61	12 17	11/16/21 11/31/21 4/ 8/22	
5	B F	♀	6	43	11	6			11/26/21	
6	I C	♀	6	40 41½	8	6 6½	61 65	11 20	12/27/21 4/ 1/22	1.3
7	C C	♂	7	45 49	2	5½ 3½	39 66	5 11	12/9/21 4/ 1/22	1
8	I C	♂	8½	4[illegible] 46¾	0	4 3½	55 76	22 33	12/27/21 4/ 1/22	4.8
9	C A	♂	6½	40½ 41¾	10	5½ 4½	55 77	14 22	12/30/21 3/25/22	
10	W S	♂	11½	54 57½	10	7 4½	60 66	22 24	1/10/22 4/7/22	
11	A C	♂	4½	30¾ 30¾	4	6 5	20 30	0 0	1/18/22 4/ 8/22	[illegible]
12	I N	♂	7½	52 [illegible]2	0	3½ 4½	45 63	17 30	1/28/22 4/ 8/22	
13	M C	♀	11	69 69	12	5 3½	14 22	0 0	2/ 8/22 4/18/22	
14	M A	♀	6¼	37 38½	17	8 5½	36 45	5 16	2/10/22 4/ 1/22	
15	I K	♂	10½	53½	14	6	58	25	2/11/22	
16	R P	♂	6	47	0	6	83	23	2/18/22	
17	J R	♂	8½	33¾ 33¾	14	5 5½	57 82	23 26	2/18/22 4/18/22	
18	G C	♂	8	42½ 42½	10	7 5½	43 75	15 30	3/ 4/22 4/ 8/22	
19	C P	♂	7	45½	16	8 7	77 69	38 34	3/10/22 3/13/22	
20	I M	♂	1 [illegible]/12	21¾	5	7	40 39	8 6	3/10/22 3/13/22	
21	P M	♀	1⅔	26	0	5	56 41	13 6	4/20/22 4/20/22	

* From the department of pediatrics and roentgenology of the Evanston Hospital
* Read before the Section on Diseases of Children at the Seventy Third Annual Session of the American Medical Association St Louis May 1922
1 Emerson W R P Nutrition Clinic in the Public School Am J Dis Child 17 251 (April) 1919
2 This meal (except for the amount of barium sulphate) is recommended by the Royal Society of Medicine as standard for radiographic examination of the alimentary canal

A few days later, a test breakfast, consisting of five arrowroot crackers, 240 c c of warm water and 4 gm of sugar, was given at 9 a m, after a fast of about fifteen hours One hour after ingestion, the stomach was emptied with a Rehfuss tube, suction being applied with a syringe Aspirations were usually limited to about ten minutes Subjects were not permitted to take anything by mouth, nor to lie down until the aspiration was completed They were asked to expectorate freely and not to swallow saliva during aspiration

Total and free hydrochloric acid determinations were made on the mixed, unfiltered gastric contents according to the Toepfer [3] method

RESULTS

Serial roentgenograms on the twelve children with good appetite showed all stomachs empty within five hours with an average emptying time of four and one-half hours Similar motor function tests on the twenty-one children with poor appetite showed that their stomachs usually emptied much more slowly—in only one of the twenty-one children was it empty within the time found to be the average for the former group A repetition of the motor function tests within a few days in a number of subjects gave results which checked very closely

TABLE 3—SUMMARY OF THE FIRST SERIES OF MOTOR FUNCTION TESTS

	Number of Cases	Number of Cases in Which Stomach Emptied in								Average Emptying Time
		3½ Hrs	4 Hrs	4½ Hrs	5 Hrs	5½ Hrs	6 Hrs	7 Hrs	8 Hrs	
Group A (good appetite)	12	1	4	2	5					4 5 hrs
Group B (poor appetite)	21	1	0	0	4	2	5	7	2	6 1 hrs

Before our work had progressed very far, we noticed that many of the underweight children with anorexia belonged to the types Mills [4] so clearly describes as hyposthenic and asthenic We found the habitus of children to conform with the four types he found in the adult hypersthenic, sthenic, hyposthenic and asthenic Eleven of the twelve children with good appetites were of the sthenic habitus, whereas, only five of the twenty-one with poor appetites were sthenic, the other sixteen being hyposthenic or asthenic Mills shows that the person with the hypersthenic habitus has the most rapid gastric motility, the asthenic, the slowest—the stomach frequently not being empty six hours after the standard opaque meal

In Table 4, the original emptying time of the stomachs of seven children of Group A and thirteen children of Group B are compared with the findings a number of months later Seven of the children of Group B had improved in appetite and weight, as shown in Table 2

The hydrochloric acid determinations were usually performed from three to seven days after the roentgen-ray examinations In order to detect possible errors in technic or individual daily variations, these analyses were also repeated in a number of instances within a few days, with rather good agreement Duplicate acid determinations were always made After several months, the gastric analyses were repeated in the twelve children with good appetite and in twelve of the twenty-one with poor appetite Table 5 gives the averages of total and free acid at the first analysis

The most striking difference was found in the amount of free hydrochloric acid For the children with good appetite it averaged 26 3, for the children with poor appetite, 14 9 Hurwitz,[5] who has recently

TABLE 4—A COMPARISON OF THE ORIGINAL EMPTYING TIME WITH THAT FOUND SOME MONTHS LATER

	Number of Cases in Which the Stomach Emptied in								Average Emptying Time
	3½ Hrs	4 Hrs	4½ Hrs	5 Hrs	5½ Hrs	6 Hrs	6½ Hrs	7 Hrs	
Group A (7 cases)									
First examination	0	2	1	4					4 6 hrs
Later	2	1	2	1	1				3 6 hrs
Group B (13 cases)									
First examination	1			3	2	2		4	5 9 hrs
Later	3		3	1	4		1		5 0 hrs

worked with German children from 2 to 15 years of age found an average of 48 8 for total acid and 14 3 for free acid

In Table 6, the original and subsequent average acid findings of the twelve children with good appetite are compared with those of twelve of the children with poor appetite who were reexamined The appetite and weight of seven of the latter had improved

It will be seen that the average total and free acid for the former group was somewhat lower when determined a few months after the first analyses, whereas, the average total and the free acid for the children of Group B were higher at the subsequent examination Two of the children (Table 2, Cases 11 and 13) showed no free hydrochloric acid On reexamination some months later, free hydrochloric acid was still absent They had not improved

The gastric return varied from 40 to 140 c c, and averaged about 80 c c The amount of material recovered at the end of one hour bore no relation to the degree of acidity

DISCUSSION

While the habitus (relation of the general "build" to the topography of the viscera) predetermines to a marked degree the motor function of the stomach, our results show that even the child with the asthenic habitus and long emptying time can so improve that the time is markedly shortened Carman [6] says, "The function of the stomach is in proportion to the degree

TABLE 5—SUMMARY OF SECRETORY FUNCTION

	Number of Cases	Average Acidity	
		Total	Free
Group A (good appetites)	12	61 2	26 3
Group B (poor appetites)	18	49 4	14 9

of asthenia present, and the greater the asthenia, the poorer the tonus and the longer the time required for the stomach to rid itself of its contents" Kerley [7] points out that one of the pronounced effects of delayed emptying is a loss of appetite, and that a child will not be hungry with a portion of a previous meal in the stomach In our first series of examinations, all of the children with an emptying time of five

3 Hawk Practical Physiological Chemistry Philadelphia P Blakiston's Son & Co 1916
4 Mills R W Am J Roentgenol 4 155 (April) 1917
5 Hurwitz quoted by Bruning Deutsch med. Wchnschr 46 883 1920
6 Carman Roentgen Diagnosis Philadelphia W B Saunders Company 1920
7 Kerley C C New York State J M 20 345 (Nov) 1920

or more hours (twenty of the twenty-one) had very poor appetites, and sixteen were hyposthenic or asthenic The influence of a few months of careful supervision in seven of the thirteen children with poor appetites who were reexamined is reflected in the shortening of emptying time (Tables 2 and 4), increase in the amount of hydrochloric acid (Tables 2 and 6) and increase in their appetites and weights The two children without free hydrochloric acid (Table 2, Numbers 11 and 13) were of the asthenic habitus, but had no delayed emptying times They failed to improve in spite of treatment The seven children with poor appetite who improved after several months show that the motor and secretory function can be improved by simple measures

TABLE 6—COMPARATIVE STUDY OF GASTRIC SECRETORY FUNCTION

	Number of Cases	Average Acidity	
		Total	Free
Group A (good appetites)			
First examination	12	61 2	26 3
Later	12	55 1	22 3
Group B (poor appetites)			
First examination	12	43 5	12 1
Later	12	60 6	19 0

Our observations lead us to conclude that children of the hyposthenic and asthenic habitus are much more likely to have poor appetite slow emptying time and low free acid than are those of the sthenic habitus, but that the emptying time can be shortened, and the hydrochloric acid, appetite and weight increased by proper measures

SUMMARY

1 The average emptying time of the stomach for twelve children with good appetite was four and one-half hours, that for twenty-one children with poor appetite was six and one-tenth hours The stomachs of the twelve children in Group A were empty in five hours, while sixteen of the twenty-one of Group B still had retention at the end of five hours

2 All but one of the twenty-one children with poor appetite had an original emptying time longer than that found to be the average for the children with good appetite

3 The average total hydrochloric acid for the twelve children with good appetite was 61 2, the free acid 26 3, for eighteen with poor appetite, the total acid was 49 4, the free acid 14 9

4 In two children of the group with poor appetite, free acid was absent on examination and on reexamination months later, while their emptying times were not especially long

5 Eleven of the twelve children of the former group were of the sthenic habitus Sixteen of the twenty-one children of the latter group were of the hyposthenic or asthenic habitus

6 In a number of asthenic children, the emptying time of the stomach and the amount of acid were influenced beneficially by proper measures, and this was reflected by an increase in appetite and weight

ABSTRACT OF DISCUSSION

DR W MCKIM MARRIOTT, St Louis Dr Sauer's paper is interesting, as it points out that there is not such a great deal of difference in the physiology of digestion in children and in adults The paper is important because it points the way to the treatment of certain types of digestive disturbances in children A number of deductions may be drawn from Dr Sauer's paper, and some of these he has already mentioned His results make very evident the fallacy of attempting to build up these malnourished children by stuffing them with food at frequent intervals, so that the stomach never has time to empty completely Furthermore, in children of the type described, who are suffering from a deficit of hydrochloric acid, it is a mistake to give large amounts of cow's milk, as this food, more than any other, neutralizes the acid in the stomach Cow's milk will neutralize about an equal volume of tenth-normal hydrochloric acid We have recently been interested in the gastric secretion in infants, and our results are in entire accord with those of Dr Sauer with older children Malnourished infants who fail to gain and have a poor appetite often show marked deficiency in the hydrochloric acid of the stomach We have found also that infections of any sort were likely to result in decreasing the acid secretion I should like to ask Dr Sauer if he has studied the effect of infection on the children studied by him

DR LEON T LEWALD, New York This work is exceedingly valuable and fits in with observations on younger children, young infants and young adults In regard particularly to the emptying time of the stomach from the roentgen-ray standpoint I am glad that Dr Sauer gave his exact technic as to the quantity of food ingested, and while I find that this is not of great importance, as we have tried out various types of feedings and even the ingestion of a simple watery suspension of barium yet the quantity given by him to a child of the age stated gives us something to go on in future studies Also, I am glad to see that he checked his observations later I should like to ask him two questions First if he has any explanation for the increased weight and appetite of the children? It has been suggested that the roentgen ray does stimulate the gastric and intestinal glands, and it is not unusual to find a few months after roentgen-ray examination that these persons have decidedly improved The second question Did he observe any other pathology than the slow emptying of the stomach to account for the condition of anorexia? In other words, did he find pyloric obstruction or pylorospasm or lesions farther down in the digestive tract, such as redundant conditions in the colon, that might account for the slow emptying of the stomach reflexly?

DR JOHN A FOOTE, Washington, D C Dr Sauer has made a very valuable contribution to what we know about nutrition in the older child The scattered cases which do not respond to treatment and which show no other physical reason for not gaining are explained in a way There are so many factors which have to do with the gain or loss of weight in the older child that it sometimes seems impossible to check up and correlate all of the conditions which might have an influence on the metabolism or the organization of food Dyer of London is more impressed with improvement in the vital capacity of the child as a factor in improving weight I wondered on hearing this paper whether Dr Sauer had made any observations on the history of these children—what the heredity might have been, and what the earlier history might have been Some years ago Dr Abt spoke of the nervous type of infant the same type which has been described by Heim, who found that many of these had hyperacidity and belonged to the pylorospasm group These children were very energetic and of neurotic parents, and as they grew older they were a matter of great concern to the family They were neurotic and developed reactions to food, which showed bad adjustment to environment They acquired food likes and dislikes, and sometimes insisted on having foods that did not agree with them, such as meats and sweets It is quite possible that children who exhibit anorexia, impaired motor function and lowered hydrochloric acid, might have belonged to this hypertonic group in earlier life, that there might have been both a congenital condition and improper handling which resulted in the accentuation of the degree in which the children remained undernourished The earlier treatment of such children should be psychologic—the prevention of negativism, and especially these little tryants should not be allowed to learn that they can intimidate the household by refusing foods

DR. PARK J WHITE, St Louis Dr Marriott has mentioned the application of what Dr Sauer has said to chemical findings in infants Dr Sauer's remarks about gastric and intes-

tinal motility in older children may also be applied to certain conditions in infancy Dr LeWald mentioned pylorospasm in infants When there is pylorospasm, there is in all probability also enterospasm It is commonly accepted that the whole thing is probably due to overactivity of the vagus, which explains the good effects obtained with atropin The condition should really be called pyloro enterospasm In such cases, once the vomiting has been overcome, and with it the starvation and constipation, the food is hurried through the intestines, and thus once the pylorus has been passed, the intestines empty with considerable rapidity These infants undoubtedly require more food than normal infants do

DR ALFRED L KASTNER, Milwaukee In regard to older children with poor appetites, I see no other conclusion to arrive at than that the three hour feeding interval is a common cause The school child eats at 7 a m, comes into school and has a glass of milk at 10 o'clock and then has lunch at 12 Now, in children who are properly nourished, why impose such an extra load? It is true the child needs the extra food, but is he able to handle it in three-hour intervals?

DR LOUIS W SAUER, Evanston Ill I am sorry not to have made observations on older children with poor appetites during illness, fever and infections Of course, it is a well-known fact that infants in hot weather secrete less free hydrochloric acid than on cold days I agree that it is not a good thing to give these children milk between meals Children who will not eat breakfast should not be expected to drink milk between breakfast and the noon lunch I am not speaking of the child with good appetite who is underweight I am sorry not to have mentioned the work of Drs LeWald and Kerley Dr Kerley, a year ago, pointed out that one of the pronounced effects of delayed emptying time is loss of appetite and that a child will not be hungry with a portion of a previous meal in the stomach In one of his cases, the stomach was not empty for thirteen hours If such a child eats breakfast at 8 a m, and something is still in the stomach six hours after that, it will not eat a hearty lunch In regard to Dr Foote's question—sixteen out of twenty-one were of the asthenic habitus The significance of habitus is greatly neglected in pediatrics Many children who are frequently ill belong to the "slender" type The stomach is normally below the umbilicus Roentgenologists show that normal stomachs of this type may have an emptying time not of four but of six hours For that reason they set up six hours as the normal emptying time Normal persons of this type may have a long emptying time Children who come into this group are not children who have food dislikes With regard to the treatment we made the children "free to gain," fed them on foods rich in vitamins (lettuce sandwiches, carrots, spinach and, at times, cod liver oil) and tried to get them to take a quart of milk a day giving 8 or 10 ounces at each meal If we found the hydrochloric acid low we gave 1 dram of essence of pepsin with 3 drops of dilute hydrochloric acid with each meal The two children without free hydrochloric acid are interesting in that neither of them showed free hydrochloric acid in spite of the administration of 3 drops of the dilute hydrochloric acid for a period of several months

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Preparation of Chaulmoogra Oil Derivatives—The working details of methods used at the University of Hawaii for the preparation of certain derivatives of chaulmoogra oil are described by Dean and Wrenshall in *Public Health Reports* June 9, 1922 The chaulmoogra oil used is obtained through dealers, and varies greatly in quality some lots being clear and liquid at laboratory temperature, other lots being dark muddy looking oils with large quantities of precipitated material The differences in appearance seem to have no correlation with differences in rotation of polarized light which is the distinguishing characteristic of these oils The valuable oils show specific rotations around plus 50 degrees The first step in the preparation of derivatives for therapeutic use is to break up the glycerids into glycerol and the sodium soaps of the fatty acids by saponifying the oil with sodium hydroxid under pressure These crude mixed fatty acids are then treated in different ways, the details of which are given as noted, and the following products obtained (1) mixed ethyl esters, (2) ethyl hydnocarpate, (3) ethyl chaulmoograte, and (4) ethyl dihydrochaulmoograte

THE QUINIDIN TREATMENT OF AURICULAR FIBRILLATION*

WALTER W HAMBURGER, M D
AND
WALTER S PRIEST, JR, M D
CHICAGO

Since the report by one of us (W W H[1]) in December, 1921, of eight cases of auricular fibrillation in which quinidin sulphate was administered, we have observed and treated ten additional cases In this paper we shall present (1) a further study of the cases previously reported, (2) the details of treatment and observation in ten new cases, and (3) the results and conclusions obtained from our experience with these eighteen cases in connection with a critical survey of the literature up to the present time

In spite of lack of complete knowledge of the pharmacology of quinidin, its indications and contraindications in practice, and the occasional reports of serious untoward effects (paralyses, embolism and death), interest in its therapeutic use continues to grow Reports and studies in quinidin therapy have appeared so fast during the past year, especially during the past six months, that it is well-nigh impossible to keep up with the constantly growing literature on the subject One gets the universal impression that, in spite of the accidents referred to above, it is rapidly establishing a place for itself in modern cardiac therapy Appreciating that our knowledge of the drug is as yet most incomplete, it must be borne in mind that its use in auricular fibrillation dates back only four years, since Frey's[2] work in 1918 It is interesting in this connection to reflect, as Jackson, Friedlander and Lawrence[3] have recently pointed out, that "Witherington introduced digitalis in 1783, while the year 1922 finds us still willing to learn more than we at present know about the foxglove"

Before presenting our own cases, it may be worth while to review very briefly the subject itself and its present status Auricular fibrillation, the most frequent serious irregularity of the human heart, may be converted, in approximately 50 per cent of the cases, to a normal cardiac mechanism by the administration of quinidin, one of the four better known alkaloids of cinchona bark, a stereo-isomer of quinin In a recent compilation of the literature by Oppenheimer,[4] in a total of 461 reported cases, 53 per cent of the patients were restored to a sinus rhythm Of our series of eighteen cases, eleven patients (61 per cent[5]) have secured, for a time at least, a normal rhythm, and in five (27 per cent) it has lasted three months or more The introduction of quinidin in the therapy of auricular fibrillation dates from Wenkebach's[6] accidental dis-

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* From the Medical Services and Electrocardiographic Laboratory Michael Reese Hospital

* Read before the Section on Practice of Medicine at the Seventy Third Annual Session of the American Medical Association St. Louis May 1922

1 Hamburger W W Effects of the Administration of Quinidin Sulphate in Auricular Fibrillation J A M A 77 1797 (Dec. 3) 1921

2 Frey W Ueber Vorhofflimmern beim Menschen und seine Bezeitigung durch Chinidin Berl klin Wchnschr 55 417 1918 Weitere Erfahrungen mit Chinidin bei absol Irregularitat Ebenda 55 849 1918

3 Jackson Friedlander and Lawrence J Lab & Clin. Med 7 311 (March) 1922

4 Oppenheimer Paper read before the American Society for Clinical Investigation Washington D C May 1 1922

5 Our slightly better percentage is due to the fact that eight of our cases were of the acute or paroxysmal variety and that from a larger experience more effective dosage and treatment were possible

6 Wenkebach Die unregelmassige Herztatigkeit und ihre klinische Bedeutung Leipzig Engelmann 1914

covery of the use of quinin in 1914 and Frey's work in 1918, at which time he showed the greater suitability of quinidin Since this time a large number of papers have been contributed on this subject and have served to throw considerable light on the exact mechanism, indications and contraindications, dangers, mode of action and selection of cases

CASES PREVIOUSLY REPORTED

Our first eight cases, reported last year, have been kept under observation, and the patients have reported back from time to time for examination and treatment

TABLE 1—CASES PREVIOUSLY REPORTED

	Case*			Diagnosis	Duration of Auricular Fibrillation	Quinidin Gm	Duration of Sinus Rhythm
	A	Cases in Which Normal Cardiac Mechanism Was Restored					
1	I	B	♀	Mitral stenosis chronic A F	3 4 years	1 8	11 months
2	M	B	♂	Gen arteriosclerosis diabetes mellitus chronic A F	Unknown	1 8	14 days
3	J	M	♂	Mitral stenosis chronic A F	2 years	3 2	6 days
4	J	K	♂	Hyperthyroidism acute A F M B R 50 4+	Paroxysmal	1 4	10 days
		B		Cases in Which Auricular Fibrillation Persisted			
5	I	G	♂	Postinfec myocarditis chronic A F adv heart failure	2 months	3 7	
6	S		♂	Chronic myocarditi chronic A F adv heart failure	2 years	2 0	
7	M	P	♂	Postpneu myo and end mitral sten and insuff adv heart failure chronic A F	3½ years	10 6	
8	M		♂	Chronic inter nephritis adv heart failure, chronic A F	1½ years	24 4	

* For sex ♂ indicates male and ♀ female

Table 1 shows in brief the details of these cases As stated in our original paper, only four of these eight patients (50 per cent) secured a normal cardiac mechanism, and only one of the four has maintained a normal rhythm for any considerable period (eleven months) The remaining three, in spite of various dosages and combinations of quinidin and digitalis, have experienced frequent returns of fibrillation so that, finally, quinidinization was discontinued, as no permanent benefit could be secured Patient 2 has died, eight months after treatment, from increasing intoxication from his diabetic gangrene Patient 4, with hyperthyroidism (metabolic rate 51 8 +) is at present undergoing roentgen-ray treatment for his thyroid hyperfunction with the expectation that, when this is controlled, quinidin therapy will be more effective

The four cases that failed to respond to quinidin were all cases of advanced heart failure and have continued to pursue a progressively downward course One patient has died, the remaining three are seriously handicapped in their cardiac reserve and in their ability to carry on sustained activity

Summarizing our experience with our first group of cases after an interval of one year, it must be stated that the results are not particularly gratifying, as only 50 per cent of the total number of cases responded, and in only 25 per cent of these, or 12 5 per cent of the whole, has there been a permanent result Patient 1, whose sinus rhythm has persisted eleven months, underwent in March a gynecologic plastic operation necessitating a general ether anesthetic, lasting one hour, with no evidence of return of fibrillation It may be recalled that this patient, at the time of the restoration of normal rhythm, showed a disappearance of right heart preponderance with coincident relief of clinical signs of heart failure

NEW CASES

The new cases which we have to report comprise ten Seven of these (Tables 2 and 3) responded to quinidinization with the establishment of a normal rhythm, three cases were not responsive Of the seven responsive cases, three have maintained a normal rhythm for three months or more, the remaining four have had one or more recurrences of fibrillation Three may be classified as acute auricular fibrillation undergoing their first attack of irregularity, and three as recurrent paroxysmal fibrillation The contributory causes that were probably important etiologically were acute respiratory infection, paratyphoid fever, pneumonia menopause, hypertension, toxic goiter and generalized arteriosclerosis The duration of the fibrillation varied from a few hours to several weeks The amount of quinidin necessary to control varied from 0 2 to 3 8 gm , the total amount of quinidin administered to any one patient was 23 2 gm While it is well known that the paroxysmal type of fibrillation often ceases of its own accord, these cases were so controlled that it appeared likely that the restoration of sinus rhythm was brought about as a result of

TABLE 2—NEW CASES IN WHICH NORMAL CARDIAC MECHANISM WAS RESTORED

Case	Diagnosis	Duration Auricular Fibrillation	Quinidin Necessary for Sinus Rhythm	Total Quinidin Gm	Duration Sinus Rhythm
9 W S ♂	Acute A F occurring 5th day acute grip infection	1 paroxattack lasting 12 hrs	0 4 gm	0 6	3 months
10 M L ♀	Recurrent paroxA F menopause hypertension	Variable few min to several hours	Variable from 0 2 gm to 1 2 gm	5 6	Variable 1st attack 1 year 2-4 months
11 M F ♂	Recurrent paroxA F hyperthyroid M B R 72 2+	Variable from several hrs to 2 wks	Variable from 1 2 gm to 2 0 gm	8 4	Var several hrs to 3 wks earlier attacks several months to several years
12 H R ♂	Recurrent paroxA F post infec myo	Variable from 1 4 days	0 2 gm	4 0	Variable one to several years
13 M C ♂	Acute A F gen arteriosel chr myocarditis begin heart failure	3 weeks	3 8 gm	23 2	7 days
14 B W ♂	Acute A F post pneum myo and endocarditis mitral sten	24 hrs	1 2 gm	10 2	3 months
15 B C ♀	Chr A F mitral sten and regur adv recurr heart fail —8 yrs	4 yrs	1 0 gm	7 4	24-48 hrs 7 days during continuadm prompt relapse after discontinuing

quinidin administration It is probable, too, that the drug materially shortened the paroxysm of irregularity, for in one and the same case, in which for various reasons certain attacks were allowed to continue untreated, the giving of quinidin was promptly followed with a restoration of normal cardiac mechanism Four of these seven cases were private cases under careful and repeated observation and control and, with the patients' intelligent cooperation and insight into their own problems, they themselves were convinced of the controlling action of quinidin One of them, a physician administered the capsules to himself and controlled the paroxysms of irregularity largely at his own discretion

There is little to be said regarding the three cases of auricular fibrillation which failed to respond to quinidin In contrast with the nonresponsive cases of the first series, none of them were cases of advanced heart failure, although one was classified as moderately advanced and the others early heart failure In one case, quinidin was discontinued after a dosage of 8 4 gm, covering a period of eight days, because of complaints of spots before the eyes, dizziness and ringing in the ears In a second case, after 12 gm had been given, quinidin was discontinued because of the production of a bradycardia varying between 40 and 52 apex beats a minute One or two other of our patients have experienced a similar bradycardia Curves of this patient showed a continuance of the high auricular rate with the very slow ventricular, suggesting that in large amounts over a prolonged period, quinidin does affect the auriculoventricular bundle, producing a rather high degree of partial heart block The effect of quinidin direct on the heart muscle and on the vagus must also be considered in this connection These patients, in spite of showing evidence of heart

TABLE 3—NEW CASES IN WHICH AURICULAR FIBRILLATION PERSISTED

	Case		Diagnosis	Duration of A F	Quinidin
16	S E	♀	Chronic A F chr myocar and interst neph mod adv heart failure	1 2 years	1st ser 10 2 gm 2d ser 7 0 gm Total 17 2 gm
17	D S	♂	Chronic A F early heart fail chr myocard	2-3 years	24 6 gm
18	T	♂	Recurrent paroxysmal A F	Recurrent 7 years	12 0 gm

failure, were all cases of relatively long fibrillation, so that we conclude that this factor is probably of greatest constancy in the nonresponsive cases

Rather than present the details of these cases, we shall discuss certain of the more important and obscure problems in connection with a critical survey of the literature up to the present time We shall discuss these in this order (1) favorable cases and indications for quinidin therapy, (2) unfavorable cases and contraindications, (3) dosage and method of administration, (4) digitalis, (5) subjective symptoms, clinical value, effects on compensation and decompensation, (6) toxic effects, accidents occurring during administration, respiratory paralysis, skin lesions, (7) effect on auricular and ventricular rate, vagus, venous, arterial and pulmonary pressure, peripheral vessels, (8) changes in P-R interval, QRS complex, T wave, heart block

FAVORABLE CASES AND INDICATIONS FOR QUINIDIN

It is generally agreed that patients with fibrillation of short duration and with relatively good heart muscle, with no signs of decompensation, are most favorable for the administration of quinidin Bock[7] and Chemisse[8] believe that it is particularly valuable in patients with hyperarterial tension and with peripheral arteriosclerosis Wolferth's[9] case of hyperthyroidism showed the most striking improvement Pardee[10] inclines to patients with relatively good heart muscle and fair compensation Our best results have been obtained in the acute and paroxysmal varieties, although our instance of restored sinus rhythm of longest duration occurred in a chronic case in which fibrillation had been present for three or four years Our two hyperthyroid cases responded easily to small amounts of the drug, but quickly relapsed to fibrillation, although one of them could be controlled for weeks at a time with daily small amounts of quinidin (Fig 1) We are hopeful that reducing the hyperthyroidism by roentgen-ray treatment will result in a more permanent cure Our experience with patients with peripheral arteriosclerosis is that, while they respond promptly, they relapse equally so, and permanent results are difficult to obtain

UNFAVORABLE CASES AND CONTRAINDICATIONS

The literature is fairly in agreement in the fact that the most unfavorable cases are those of long duration with moderately advanced or advanced heart failure Our experience is in accord with this, although there are many exceptions to it Ellis and Clark-Kennedy[11] believe that those which do not respond to digitalis will not respond to quinidin Smith[12] believes that patients with large hearts are unfavorable Jackson, Friedlander and Lawrence, from results with experimental aconite poisoning, suggest that there may be two types of fibrillation, the early aconite poisoned animals responding, the late not White[13] believes heart failure and long duration are unfavorable cases Bock and Chemisse speak of acute and recurrent endocarditis as contraindications Thomas Lewis[14] warns against patients in whom there is any history or findings of previous embolism and patients with advanced heart failure as evidenced by an engorged, tender liver and dilated veins of the neck While we have been fortunate in experiencing no serious mishaps, we share in general the statements of the foregoing observers However, it is certainly difficult to predict whether a given case will be successful or not, although, in general, we now feel fairly safe in stating that the case with a single acute attack or a recurrence can usually be controlled promptly with quinidin

DOSAGE AND METHOD OF ADMINISTRATION

All observers are using practically the same amounts of quinidin, varying from 0 2 to 0 4 or 0 6 gm, three or four times a day Lewis recently spoke of using as a test dose 0 8 gm, the largest amount of which we know In general, we are using frequent small doses, and find that they are as advantageous as the larger amounts In a few recent cases we have omitted the preliminary idiosyncrasy dose, starting with 0 2 gm every two hours with careful, frequent examinations of the patient, and find that many attacks can be controlled immediately in from two to twelve hours by this method If such dosage is ineffectual, after a three or four day attempt, we increase the amount to 0 4 gm every two hours In our last cases we have been accustomed, after the establishment of sinus rhythm, to continue giving 0 2 gm once or twice a day for a considerable period, decreasing only gradually, believing, with Lyster and Fahr,[15] that, since in most

7 Bock Med Klin **17** 1052 (Aug 28) 1921
8 Chemisse Presse méd. **29** 748 (Sept 17) 1921
9 Wolferth C C Am J M Sc. **162** 812 (Dec.) 1921
10 Pardee D discussion New York Acad of Med Nov 17, 1921
11 Ellis A. W M and Clark Kennedy A. E Lancet **2** 894 (Oct. 29) 1921
12 Smith F M Quinidin in Cardiac Irregularities, J A. M. A. **78** 877 (March 25) 1922
13 White P D Boston M & S J Dec. 17, 1921
14 Lewis Thomas Paper read before the Institute of Medicine Chicago, May 10 1922
15 Lyster J A. E. and Fahr G E Quinidin in Auricular Fibrillation Arch Int. Med. **29** 59 (Jan.) 1922

cases the conditions tending to produce auricular fibrillation are still present even after a normal rhythm is restored, subsequent administrations of the drug are necessary to avoid recurrence If stoppage of the drug is followed in a short time by a relapse, we start a second series of quinidin administration, continuing it practically indefinitely, meanwhile making every possible attempt to diagnose and treat the probable underlying causative disease It is remarkable how long and uneventfully patients can take small amounts of quinidin Several of our patients are continuing now in their second and third month taking one or two capsules (0 2 gm) a day without apparent harm

DIGITALIS

The role of digitalis has been and continues to be a much discussed one Pardee believes there is no effect either way from its administration Wolferth had an interesting experience in which the administration of digitalis was effective in restoring a sinus rhythm temporarily, later, quinidin was not successful Robert Levy [16] believes that digitalis is not essential to successful treatment Fred Smith feels that it is contraindicated, as both digitalis and quinidin may produce heart block White concludes that digitalized cases are more likely to respond, but that it is better not to give the two together Lewis believes that there is little difference in the auricular response, although possibly the undigitalized cases may be a shade more likely to respond than the digitalized, but he strongly feels that digitalis effects are desirable, especially in the rapid type of fibrillation, and shows graphically in one and the same patient the relative slowing of the ventricular rate in the digitalized cases We have had three interesting experiences To one patient, in whom, in spite of evident decompensation (cyanosis and orthopnea) digitalis was certainly indicated, we gave quinidin first without digitalis, and a prompt restoration of sinus rhythm occurred, with a simultaneous disappearance of signs of heart failure The second case, reported last year, showed without digitalis and with small amounts of quinidin a clearing up of early heart failure and disappearance of evidences of right heart embarrassment (right preponderance) In the third case, an exophthalmic goiter patient with an extremely rapid type of fibrillation, we had great difficulty in maintaining, without digitalis, a normal rhythm for more than a few hours until a time when he was completely digitalized, after which the same or even smaller amounts of quinidin were successful in holding his heart regular for three weeks As a result of these experiences, our practice at present is to give quinidin at once in a properly selected case without preliminary digitalization, in spite of a moderately rapid heart and signs of early or moderately advanced heart failure If, on securing a normal rhythm, the ventricular rate remains over 100, or if the signs of heart failure have not disappeared entirely, or if the restoration of a regular pulse is of short duration with frequent and early tendencies to relapse, we then digitalize the patient in the usual way

SUBJECTIVE SYMPTOMS, CLINICAL VALUE, EFFECTS ON COMPENSATION AND DECOMPENSATION

The symptoms mentioned most frequently in the literature as due to the administration of quinidin are palpitation, weakness and dizziness, dyspnea, oppression and tachycardia A few have noticed epigastric distress, ringing in the ears, headache, nausea, hemoptysis and hot flashes Some of these complaints have been voiced by our patients, others have noticed no subjective effects of any sort

From the standpoint of the effect on subjective complaints, that is, the value of the treatment from the patient's standpoint, the literature contains such statements as "no striking change", "no more than ordinary rest and diet", "relief experienced in slow type of fibrillation", "relief from palpitation", "general improvement" Lewis makes the interesting observation that, although several of his patients showed no immediate improvement and experienced no immediate change with restoration of normal rhythm, they experienced later improvement in strength, in general well-being and in ability to carry on In our experience, the private cases have experienced decidedly more personal satisfaction from the change than the ward cases, not only patients with exophthalmic goiter but also those with acute fibrillation following infection, they are extremely grateful when the irregularity has been stopped Our easy-going, phlegmatic patients noticed little if any change, our nervous, apprehensive, frightened ones were intensely frightened during the attack and strikingly relieved when it was over, and insisted on having their capsules near them day and night One patient with goiter, whose attacks often come at night, puts his capsules at his bedside and helps himself when his attacks rouse him from his sleep

Several men have reported that quinidin caused decompensation in a previously well-compensated fibrillating heart, or, at least with the restoration of sinus rhythm by quinidin, decompensation occurred We have fortunately had no such experience

TOXIC EFFECTS, ACCIDENTS OCCURRING DURING QUINIDIN THERAPY (EMBOLISM), RESPIRATORY PARALYSIS, SKIN LESIONS

Wilson and Herrmann [17] group the accidents occurring under quinidin therapy under six headings (1) increased cardiac failure, (2) apparent respiratory paralysis, (3) embolism, (4) failure of the sinus node to resume function, (5) depressed intraventricular conduction, (6) increased ventricular rate Embolism is, of course, the most serious, has resulted in several sudden deaths, and has caused infarcts in the kidney, lung spleen and brain It has caused transitory paralyses

We have been fortunate up to the present time in having no embolic cases, at least none that we recognized We have had several scarlatiniform rashes, dizziness and ringing in the ears, spots before the eyes, and sudden rise of temperature to 101 6 with severe headache, diarrhea and abdominal pain Such results as these are frequent findings throughout the literature The less serious findings are undoubtedly cause for immediate discontinuance of the drug We fully agree with Sir Thomas Lewis that any evidence of embolism is an absolute contraindication It is striking that several clinics report a much greater number of these accidents than others In this connection, it might be recalled that embolism is not an infrequent occurrence in fibrillation without quinidin, witness the reports of paralysis, infarcts, hemoptysis, etc, in the older literature

16 Levy, Robert Proc Soc Exper Biol & Med. **19** 88 1922

17 Wilson F N and Herrmann G R Cerebral Embolism Following Arrest of Auricular Fibrillation by Quinidin J A M A **78** 865 (March 25) 1922

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Acceleration of the ventricular rate (ventricular tachycardia) is a frequent experience in patients undergoing quinidin treatment Drury and Iliescu,[18] by using sternal leads, have shown clearly the progressive depression of auricular rate, falling sharply from a single dose and only very gradually resuming its original rate We have taken sternal leads in connection with the regular leads in a number of cases, and have estimated the auricular rate (Fig 3) Table 4 shows the typical result of such estimation, showing

TABLE 4—REGULAR AND STERNAL LEADS CASE II

Date	Hour	Leads	Auricular Rate	Ventricular Rate	Rhythm
3/7/22	8 p m	Regular before quinidin	461 (approx)	171	Irreg (fibrillation)
3/8/22	8 a m	0 2 gm Q			
	10 a m	0 2 gm Q			
	11 a m	Sternal	408 (approx)	141	Irreg (fibrillation)
	12 noon	0 2 gm Q			
	1 40 p m	Sternal	260	130	Reg (flutter)
	2 p m	0 2 gm Q			
	3 p m	Regular	260	130	Reg (flutter)
	4 p m	0 2 gm Q			
	5 30 p m	Regular	240	120	Reg (flutter)
	6 00 p m	0 2 gm Q			
3/9/22	8 00 a m	0 2 gm Q			
	9 45 a m	Regular	100	100	Normal (S R)
	4 30 p m	Regular	75	75	Normal (S R)

the gradual depression of an original auricular rate of 460 during fibrillation to 260 during flutter, and finally to 75 with the restoration of sinus rhythm In contrast to Lewis' findings, the ventricular rate in this case likewise progressively decreased, as it has in one or two other cases, resulting finally in a fairly high grade bradycardia This rapid early irregularity is usually followed by a rapid regular rhythm (auricular flutter), the "*Transition* rhythm" of Eyster and Fahr The rate estimations in three cases, given in Table 5, show the initial ventricular, the transition rhythm and the final sinus rhythm rates

TABLE 5—RATE ESTIMATIONS IN THREE CASES

Initial Ventricular Rate	Rate of Transitory Rhythm	Sinus Rhythm Rate
111	130	60
80	133	73
94	107	70

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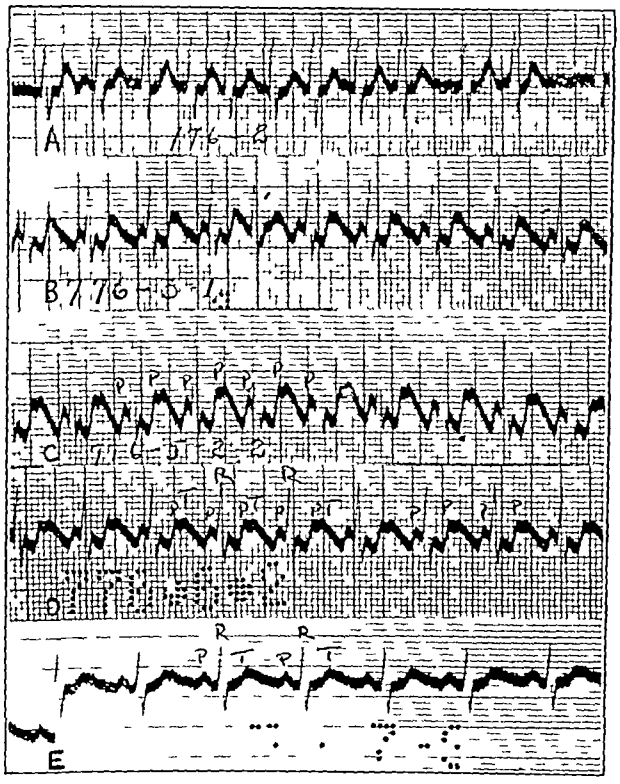

Fig 1 (Case 11 man aged 54)—Recurrent paroxysmal auricular fibrillation change from auricular fibrillation to flutter and to sinus rhythm with slowing of auricular and ventricular rates exophthalmic goiter *A* March 7 1922 8 p m auricular rate approximately 461 ventricular rate 171 fibrillation no quinidin *B* March 8 11 a m approximate auricular rate 286 ventricular rate 150 fibrillation 0 4 gm quinidin *C* March 8 3 p m auricular rate 260 ventricular rate 130 flutter 0 8 gm quinidin *D* March 8 5 30 p m. auricular rate 240 ventricular rate 120 flutter 1 gm quinidin *E* March 9 9 45 a m auricular rate 100 ventricular rate, 100 sinus rhythm 1 4 gm quinidin

SUMMARY

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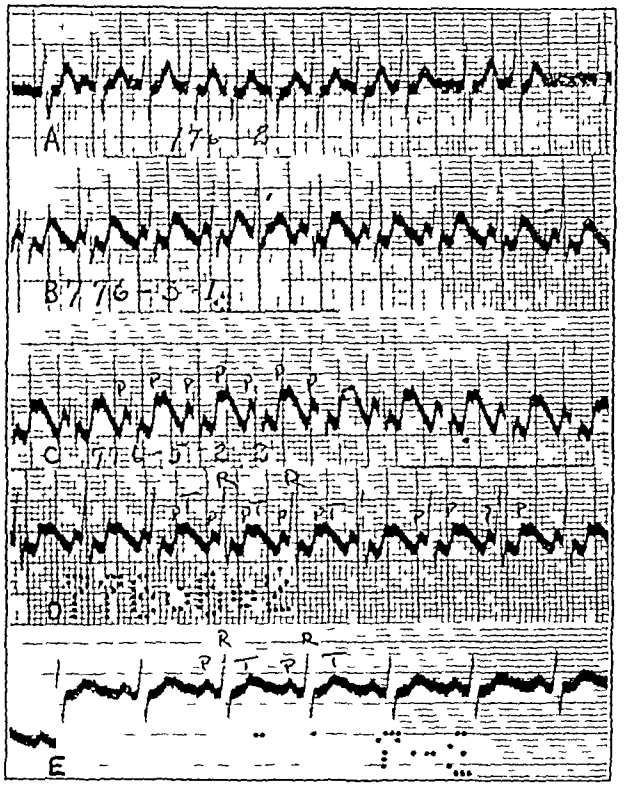

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difficulty arises from several sources, because (1) of our comparatively short acquaintance with the phenomenon, (2) our lack of knowledge concerning the exact mechanism and underlying cause of fibrillation itself, and (3) the new experiences and findings from each fresh case undergoing treatment

Stating first our general impression, in spite of our relatively few cases of permanently established sinus rhythm (27 per cent), we feel that quinidin is establishing a permanent place for itself in cardiac therapy and that no case of auricular fibrillation should be treated at the present time without at least thoughtful consideration of its therapeutic possibilities Starting, then, from this general favorable impression, which are the cases that are most likely to respond, either permanently or temporarily? Judging by our experience up to the present time, we feel that patients with acute fibrillation or recurrent paroxysmal fibrillation are those most likely to react favorably and promptly to

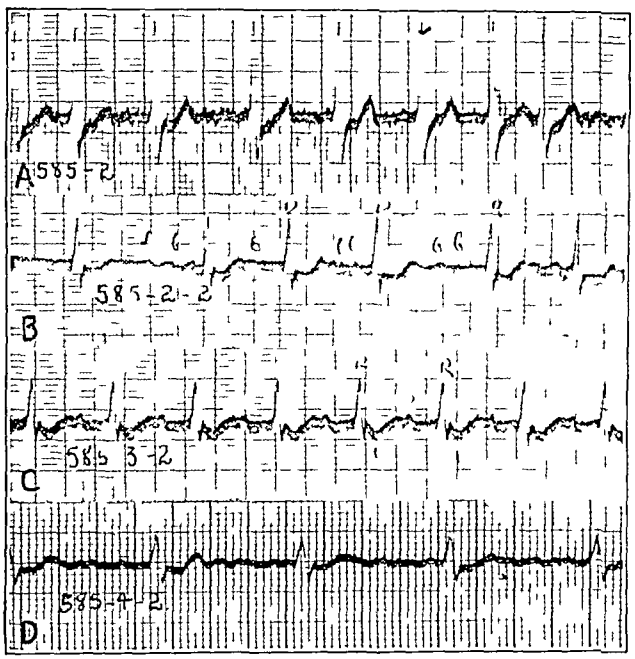

Fig 2 (Case 15 woman aged 50) —Chronic auricular fibrillation mitral stenosis regurgitation advanced recurring heart failure Quinidin response brief early relapse to fibrillation prolonged P R example of contraindication Following 0 2 gm temperature 101 6 F Died suddenly one week later *A* Aug 19 1921 rate 94 no quinidin *B* August 23 rate 75 no quinidin *C* September 2 rate 107 2 6 gm quinidin *D* Feb 8 1922 rate 79 total quinidin 7 4 gm

quinidin While in these patients fibrillation often ceases spontaneously, administration of the drug controls the paroxysms more promptly and without danger The duration of the response is more likely to be permanent in acute self-limited illnesses (acute respiratory infections, pneumonia) than in cases of hyperthyroidism, generalized arteriosclerosis, etc

The next most favorable type of case is the patient with fibrillation of relatively short duration without signs of heart failure or evidence of embolism, in whom the administration, so far as we know, is unattended with serious consequences

The third group, in which the outlook for response is probably as good as the second, but in which the possibilities of danger are somewhat greater, comprises those patients with signs and symptoms suggestive of beginning or early heart failure (*cyanosis, dyspnea* palpitation and tachycardia), but without the signs of advanced heart failure (engorged tender liver, pulsating veins of the neck, dropsy, etc) In these the response is often remarkable These cases suggest that the cyanosis, dyspnea and palpitation are due to the mechanical effects of the rapidly beating ventricle, and not to ventricular muscle failure

We come now to the fourth group, the unfavorable cases or those in which quinidin is absolutely contraindicated They may be listed briefly as those patients suffering with moderately advanced or advanced heart failure, signs or history of embolism, acute or subacute endocarditis, auriculoventricular or intraventricular block, angina pectoris, coronary disease, idiosyncrasies for quinin and its derivatives, or prolonged chronic fibrillation In these patients, the results of quinidinization are not sufficiently striking to justify the potential risk involved

The drug should not be given without a careful history and complete examination of the patient If possible, a preliminary electrocardiogram should be made, for without it there must always exist some uncertainty as to the exact type of irregularity or the presence of additional irregularities (extrasystoles), the relative balance of the right and left heart, and the integrity of the ventricular muscle (disturbance in ventricular conduction) The patient should be put at complete rest in bed, given a preliminary idiosyncrasy test of 0 2 gm, and then starting the following day the same amount every two hours with continuous observation and control, including the electrocardiogram if possible Digitalis should be given later if the ventricular rate remains high, if heart failure persists, or if frequent relapses to fibrillation occur

CONCLUSIONS

1 Quinidin sulphate has been administered to eighteen patients suffering with auricular fibrillation In eleven (61 per cent) a normal cardiac mechanism has been established, which, in five (27 per cent), has persisted three months or more One patient has maintained a sinus rhythm uninterruptedly for eleven months

2 Cases of acute fibrillation or recurrent paroxysmal fibrillation are most amenable to quinidin treatment In these patients the duration and frequency of the paroxysm can be promptly controlled without undue risk

3 The following is offered tentatively as a means of selecting cases of auricular fibrillation in the order of their decreasing suitability for quinidin treatment (*a*) patients with acute fibrillation or recurrent paroxysmal fibrillation, (*b*) patients with fibrillation of short duration without history or findings of heart failure or embolism, (*c*) patients with signs and symptoms of early or apparent heart failure, but without evidence of advanced heart failure

4 In patients with moderately advanced or advanced heart failure, and history or findings of embolism, endocarditis, heart block, angina pectoris, coronary disease, quinin idiosyncrasy or prolonged chronic fibrillation, quinidin is contraindicated

5 Equally good results are obtained with small amounts of quinidin (0 2 gm) given frequently (every two hours), to be continued in most cases once or twice daily after restoration of sinus rhythm

6 Quinidin may usually be given at once without preliminary digitalization If, after restoration of

normal rhythm, the ventricular rate remains high, signs of heart failure continue, or frequent relapses to fibrillation occur, digitalis should be subsequently administered

ABSTRACT OF DISCUSSION

DR FRED M SMITH, Chicago Every one has been impressed by the remarkable action of quinidin in auricular fibrillation The beneficial effects of this drug in this disorder are not, however, as promising as it was thought they might be It is apparently generally agreed that quinidin will ultimately be established as a valuable drug in the treatment of certain cardiac disorders So far the results seem to be much better in instances of auricular fibrillation of short duration in which the heart is well compensated A few fatalities have been attributed to the administration of quinidin In most instances cardiac failure or emboli have been responsible for the unexpected results Lewis recommends that patients be well digitalized prior to the administration of quinidin His reason for this is to ward off the possibility of embolic accidents At present, it would thus seem that the dangers incident to this method of treatment would not permit its being recommended to the general practice Observations would seem to indicate that quinidin may, perhaps, be of value in the treatment of permature contractions It is commonly known that the premature beat may be a very disturbing condition to the patient and often not influenced by the measures that have been employed in the past In several instances, we have obtained very satisfactory results with quinidin in persons who did not respond to other forms of medication I well recall one patient who came to the clinic because of an irregular action of the heart that had occurred daily for an interval of more than five months His general condition was very poor He was unable to continue his work He had lost 20 pounds (9 kg) in weight, was unable to sleep and had a poor appetite He was instructed to take 3 grams of quinidin three times a day The irregularity was eliminated He began to sleep regained his appetite and in one week gained 10 pounds (4 5 kg) in weight At present his weight has increased more than 25 pounds (11 3 kg), he is back at his former work and feels better than he has in months

DR JOHN WYCKOFF New York Dr Hamburger said that quinidin was not indicated in cases of severe, long standing decompensation I agree, but I think there are two reasons why it is contraindicated first, as Dr Hamburger has said because in this type of case quinidin is most dangerous, although it is interesting to note that in the twenty-four cases of auricular fibrillation which I have observed the only death occurred in a patient who had no symptoms of heart failure at the time he received quinidin, and, second, because the clinical improvement after quinidin is very much less than that which we obtain after digitalization It has been our practice to place patients with auricular fibrillation with heart failure into two groups In one group we gave digitalis first and after we had obtained full digitalis effect, we gave quinidin In the other groups we gave quinidin first followed later by digitalis Patients were given a preliminary rest period of seven days with limited fluid intake so that these factors could be eliminated as a cause of improvement They were ordered rest for a week, and then given quinidin Though some of these patients resumed sinus rhythm, none of them showed further clinical improvement The other group were given quinidin first Those who returned to normal rhythm usually showed some slight clinical improvement After seven days' continued rest with the normal rhythm, these patients were digitalized, and every one of them showed marked further improvement For example one patient with a ventricular rate of 160, with signs of advanced heart failure after receiving quinidin, resumed a normal rhythm with a ventricular rate of 90 The only clinical improvement was that palpitation disappeared The patient was given a further rest for one week During this time, dyspnea and orthopnea persisted and there was no loss of weight He was then digitalized with an immediate clearing up of his symptoms He passed 4 liters of urine in the first twenty-four hours and lost 15 (6 8 kg) pounds weight in the first forty-eight hours This, I believe shows that quinidin cannot take the place of digitalis in this type of case

DR ARTHUR E STRAUSS, St Louis Quinidin has certainly come to be experimented with, even if it has not come to stay The use of quinidin is still in an experimental stage As with all drugs it must undergo a period of study and our final analysis must depend on this study Dr Hamburger has emphasized that quinidin apparently is most effective in the cases of transitory auricular fibrillation In that connection I think it important to say that we are not certain that all so-called chronic fibrillations do not begin first as periods of transient fibrillation Certainly, if one takes careful histories, one will often see cases develop as transient fibrillation, and it is not infrequent to see such cases develop later into the chronic forms If quinidin is valuable in the temporary fibrillation it is valuable in the chronic fibrillations at the onset Dr Hamburger has stated that it is often

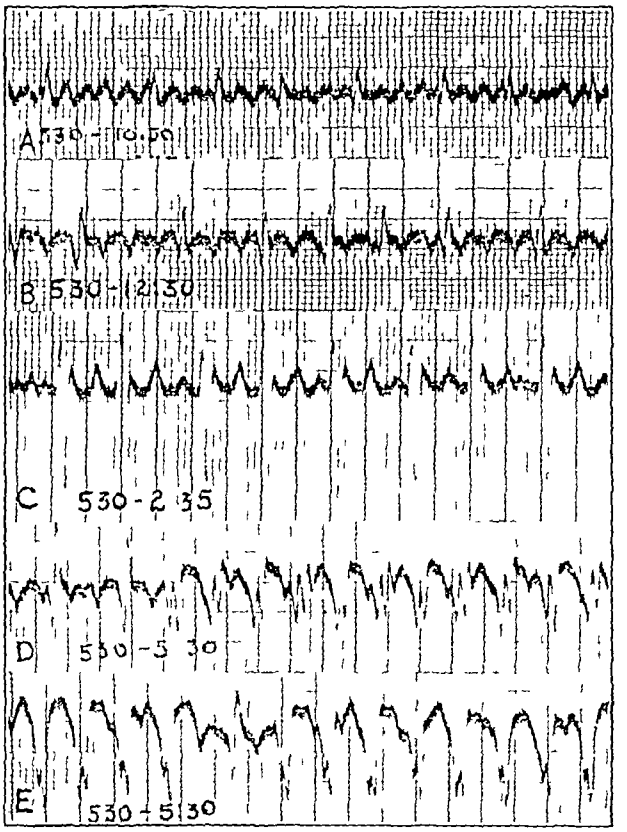

Fig 3 (Case 5) —Sternal lead curves showing effect of quinidin on auricular and ventricular rate Nov 28 1922 *A* 10 30 a m no quinidin auricular rate 424, ventricular rate 124 *B* 12 30 p m after 0 1 gm auricular rate 382 ventricular rate 150 *C* 2 35 p m after 0 2 gm auricular rate 363, ventricular rate 124 *D* 5 30 p m. after 4 gm auricular rate 375 ventricular rate 230

necessary to continue the administration of quinidin We are not yet certain of the effects of the long-continued use of quinidin We have seen quinin used in malaria for long periods of time and in the majority of cases we have noted no harmful effects However, in a number of my cases of fibrillation in which quinidin has been used for long periods the patients have complained of weakness when they had no symptoms of idiosyncrasy to quinidin Therefore, there is some doubt as to how long quinidin can be continued It must further be emphasized that there are some dangers incident to the administration of quinidin Therefore it must be used only after due consideration and with the idea that it should be as carefully controlled as are all experiments One final word as to the reason we should not use quinidin in the decompensated hearts We know that digitalis in the decompensation of fibrillation is almost invariably beneficial We know that quinidin is beneficial in restoring normal rhythm

in no more than 60 per cent of cases on the average That alone is sufficient reason for using digitalis in the decompensated fibrillators, rather than quinidin

DR ALEXANDER LAMBERT, New York I have tried quinidin in thirty cases In one patient, the fibrillation stopped and the rate fell to normal In all the others, with careful electrocardiographic control, there was no effect

DR L F BISHOP, New York Dr Hamburger has probably made the best observations and written the best literature on quinidin So that, in discussing his paper, I do not wish to add to the experimental side of it, but rather to give my own impressions founded on a rather unusual group of patients For a number of years, I have been using the electrocardiograph in private practice, and I have instructed my patients to come to the office when they have palpitation and have a picture taken of the heart beat Thus I have accumulated a number of examples of temporary fibrillation which did not recur again for a long time or did not recur at all It seems to me that a very important element in appraising the value of quinidin is a knowledge of the natural history of fibrillation I believe that nearly every example of fibrillation, except in the very advanced broken-down heart, begin in this way The vast number of fibrillators commence by short attacks which become more frequent and last longer It is almost a joke on medical science that the best example of therapeutic effect should be disturbed by the introduction of a new treatment There is no treatment in all medicine as brilliant as the treatment of fibrillation of the auricle with digitalis, and I would say as a matter of experience that the patients do not feel any better when they are treated by quinidin than when they are treated by digitalis In other words, the chronic fibrillator carries fibrillation comfortably if he takes enough digitalis or if he develops heart block which balances the fibrillation I have seen persons who have continued very well with fibrillation for fifteen years or more There is no doubt that there often exist clots in the paralyzed auricle in fibrillation and it is certainly dangerous to restore the contraction of that auricle if it is going to throw out an embolus which may kill the patient I do not believe that quinidin is a valuable general heart tonic and I believe that men in general practice will do well if for the present they leave the use of quinidin to men who are experimenting with it in hospitals I think it is unwise to use it in ambulatory patients in private practice

DR WALTER W HAMBURGER, Chicago I agree with Dr Bishop in the main I think his warning in the advanced cases should be emphasized The real danger is, of course embolism If there is any sign or history of embolism quinidin should not be given One of my patients is a surgeon who has had paroxysmal attacks of fibrillation for fifteen years He gets attacks once a year or so, sometimes while operating, once while swimming and the last time while working in his garden The attack last year lasted about a week and was associated with severe anginal pains He was worried about it and was quite ill After a week's rest in bed, the fibrillation stopped of its own accord and he has had no attack until a week ago I immediately gave him 3 grains (0 2 gm) of quinidin and another dose in two hours Within three hours this attack was over and he is confident the drug shortened the attack Likewise in the paroxysmal attacks of exophthalmic goiter, quinidin undoubtedly controls the attacks It should not be given to ambulatory patients, and it should not be given as a routine until we know much more about it than we do at the present time Embolism occurs in fibrillation without quinidin and sometimes without the establishment of a normal rhythm

Purpose of Operation for Epilepsy—In operating on epileptics, and in choosing cases for operation, we should like to have a clear idea of the purpose of the operation, based on some reasonable conception of that relationship The surgeon who merely removes a disk of bone from the cranium of an epileptic patient places himself on a level with the practitioner of the stone age the marks of whose handiwork on the skulls, probably of the epileptic or the insane, are to be seen in museums of ethnology —Percy Sargent, *Brain* **44** 314 1921

THE CAUSE AND RELIEF OF ACUTE INTESTINAL OBSTRUCTION*

CHARLES H MAYO, M D
ROCHESTER, MINN

Ileus is one of the most serious conditions that confront the medical attendant, since if it is not relieved death is inevitable In order to lower the death rate in such conditions, much depends on early diagnosis, judgment and promptness of action Relief is by no means possible in all cases, for instance, there is necessarily a high mortality in cases of mesenteric embolism and thrombosis Therefore, the discussion of the subject of acute intestinal obstruction, from time to time, is of value, not so much for the older practitioners as for those who have more recently entered the profession, so that they may acquire knowledge without encountering the tragedies which fixed the memory of such conditions in the minds of those long in practice

Cases of acute intestinal obstruction may be regarded as falling naturally into four groups (1) apparent obstruction, really intestinal stasis, a reflex symptom occurring with slight abdominal distention, the pulse and temperature changes being such as are caused by the primary lesion, which is often renal, (2) the obvious hernia, (3) acute obstruction from an intra-abdominal lesion, and (4) postoperative obstruction

The obvious hernias, inguinal, femoral, umbilical and ventral, which formerly caused a considerable proportion of obstructions through strangulation, have now largely been taken from this group, as even laymen appreciate the safety of modern surgery over that of a few decades ago Hernia repaired at an elective period prevents the high percentage of strangulations formerly seen, when a reasonable fear of surgery led to prolonged taxis which often aided in the development of gangrene The wasted opportunity, added to the seriousness of preantiseptic surgery, gave a high mortality which resulted in making acceptable this vicious circle of delay Gangrene, or wet death of tissue, especially abdominal, and when sepsis is possible, furnishes toxins which are most difficult to counteract without the removal of the destroyed tissue or without adequate drainage

Obstructions within the abdomen are those which cause the greatest apprehension, as there are added difficulties of diagnosis, some of which have been overcome by fluoroscopic observation or roentgenograms revealing obstructions after the opaque material has been given by mouth or by rectum Volvulus from the twist of an extra long mesentery, usually of the sigmoid, produces not only obstruction but also the toxins of tissue death Various forms of internal hernia, beneath bands, through congenital or unnatural mesenteric openings or through the diaphragm, usually cause degrees of partial, chronic, rather than acute, obstruction, which, however, may suddenly supervene A second form of toxin concerning which much has been written is still under discussion It is observed in obstructions high in the jejunum, blocking the duodenum, and, although the exact cause of retention is not always known, the condition is recognized Such an obstruction around the duodenojejunal juncture, with paresis and dilatation of the duodenum may cause

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alkalosis with tetany, in which there is loss of the chlorids and a great general loss of calcium which chokes the renal tubules This is most serious and is attended by vomiting of green fluids having but little odor At first, the vomitus is usually watery and contains undigested food particles, and later bile, but the green vomitus probably originates largely in the upper duodenum In obstruction of the jejunum or ileum, the green vomitus may be noted the second day, followed later by regurgitant brown and darker colored fecal or foul smelling fluids The true toxin of pancreatic and duodenal ferments is most difficult to counteract, but relief is obtained or life is prolonged by removing the fluid at regular and frequent intervals with a stomach tube The mortality is high because efforts to relieve the obstruction surgically are made late The operation must drain the duodenum below by jejunostomy and a tube passed to the duodenum, or through the stomach, by gastrostomy and a tube through the pylorus, or by duodenojejunostomy

Obstruction of the stomach at the pylorus causes death from inanition, yet if fluids can be supplied subcutaneously, by rectal tube or nutritional jejunostomy tube, life can be prolonged for a considerable period Obstruction below this point becomes serious early because of the toxemia, although danger of this is less acute, the lower down the obstruction occurs, and if the obstruction is in the large bowel, several days may be added to the possible period of surgical relief over that if the obstruction is in the small intestine In the latter case, the later the operation, the higher the mortality for any given procedure After the first day each hour increases the danger of the condition The toxemia then from colonic obstruction is of less relative importance than perforation, peritonitis and inanition, if the stomach is kept empty by regular tubation

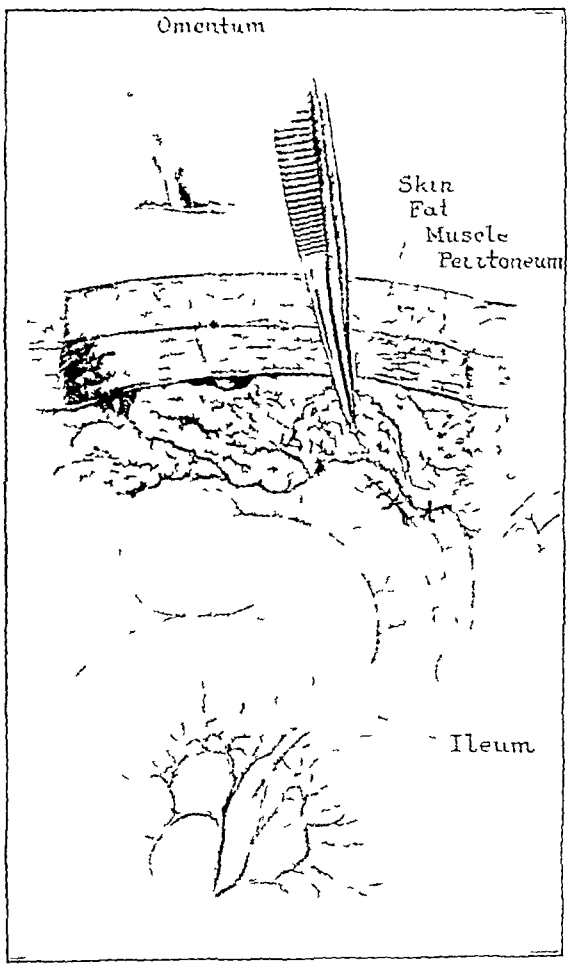

Fig 1—Ileostomy with a rubber tube which passes from the lumen of the intestine through the intestinal wall omentum and abdominal wall

Intussusception, with its sudden onset, cramps and pain, with blood and mucus, may often be located by a palpable tumor, especially in children under 1 year of age, among whom from one third to one half of such conditions are found In adults intussusception is often started by a tumor, benign or malignant, of the small intestine The papilloma or adenoma becomes grasped in peristaltic action, the bowel being drawn in behind as it moves forward within its lumen, usually thus producing a tumor of palpable size An inverted Meckel's diverticulum may act in the same way, or a stiff infected area on the cecum around the base of the appendix may become the invaginating head Operations are rarely performed early enough that the intussusception may be milked back, and it is usually necessary to perform some degree of resection of the bowel and intestinal anastomosis Gross tuberculosis in the small or large bowel occasionally causes complete obstruction following a series of chronic, recurring incomplete obstructions In the large bowel, malignancy accounts for the great majority of these conditions, the obstruction is rarely due to the pressure of tumors except those that are usually obvious or palpable, and even in cancerous obstruction, in most instances, there are recurring attacks of incomplete obstruction which are characterized by the passage of blood streaked mucus before it becomes complete Sudden, severe pain with shock usually signifies the completion of obstruction, especially if due to a twist or to mesenteric thrombi or emboli, the latter, as a rule, being secondary to endocarditis

In hernia, gangrene, volvulus or vascular obstruction, there is usually a rapid increase in the leukocyte count. A large gallstone may ulcerate through the gallbladder and duodenal walls, and, after passing through the upper intestine, cause a block in the lower ileum While a previous history of probable gallstone disease may be elicited after operation, indication for exploration in acute ileus will continue, and the procedure will disclose many causes of obstruction that are relievable and some that are unrelievable Promptness of action is essential in making an exact diagnosis of the cause

In many years of active surgical work I have not seen death occur as the result of an unnecessary exploration I have seen many patients saved and some die of disease, but many died solely because exploration was undertaken too late

TREATMENT

Most patients are moribund or nearly so at the time procedures are undertaken for the relief of obstruction of the large bowel If the obstruction is the essential feature, I should warn against any endeavor to make the operation other than a life-saving drainage procedure as colostomy, enterostomy or appendicostomy The last is of little value and becomes absolutely dangerous, unless the appendix is large and patulous and will admit the passage of a large catheter without tension, otherwise cecostomy is indicated

Exploration must be made to determine whether or not the obstruction is malignant or is due to congenital diverticulitis Sometimes this is impossible because of adhesions and infections Acquired diverticulitis is rarely so small in area or confined to so few or to such small pockets that the diverticula will not show in the barium shadow True congenital diverticula are more rare, resemble malignancy and may even develop malignancy If the condition is malignant, examination of the liver, glands and intestines should be made in order to ascertain whether future operation is advisable and just what procedure should be carried out

An endeavor to make the primary operation complete, with removal of the growth, probably doubles the danger over that of a two-stage procedure

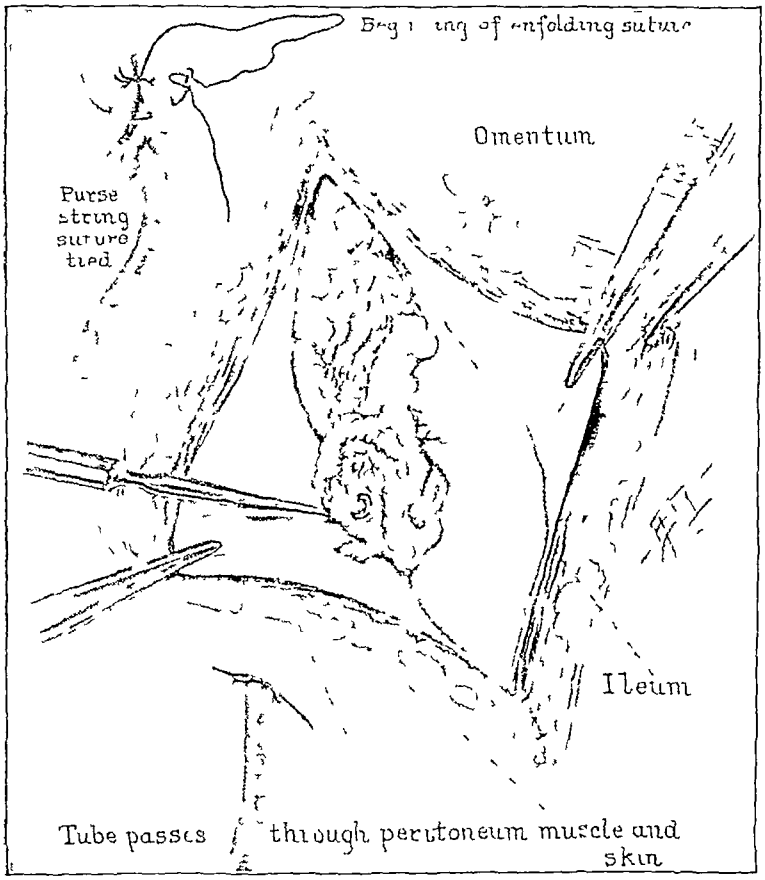

Fig 2 —Abdominal wound showing position of rubber tube in relation to the ileum in its course as it passes through the omentum and abdominal wall

Obstruction following operative procedures such as gastro-enterostomy, or the removal of pelvic infections is a real tragedy While we blame the patient and the medical attendant for delay in calling council in the obscure cases of obstruction, the same delay occurs in hospitals in postoperative cases, and there is a lack of promptness of action, because of the hope that the obstruction is partial and will "clear up tomorrow"

In diagnosing localized peritonitis with the stethoscope, one may hear some tinkling movement of fluids and gases which is not noted in general peritonitis with attendant obstruction from paresis General peritonitis is accompanied by an even distention as compared with the irregular distention accompanying peristaltic activity of the stomach and small intestines, which is more manifest the lower the obstruction

When complete obstruction supervenes, several small, loose, natural, but painful, movements may occur, and there is violent peristaltic action above in the endeavor first to overcome the obstruction, and failing in this to reverse peristalsis and empty the bowel contents into the stomach Usually vomiting and rarely dilatation occurs The latter doubles the danger if unrecognized Therefore, the use of the stomach tube is the most valuable test we have for the purpose of determining the condition of the stomach and the amount of intestinal contents therein, and it must be used repeatedly to prevent dilatation I should prefer to see a stomach tube rather than a stethoscope hanging around the neck of my surgical intern

If local obstruction occurs following gastro-enterostomy, turning the patient on his face or on the left side sometimes aids in the passage of gastric contents into the intestine, probably because the opening is on that side, or possibly because of a change in circulation of the superior mesenteric vessels In postoperative obstruction, if the abdomen is opened within twenty-four or thirty-six hours after the beginning of symptoms, the filmy adhesions causing kinks or twists can be separated with little difficulty, and with immediate benefit Later, but little exploration is advisable for the purpose of ascertaining the cause or exact location of the obstruction, and enterostomy, as advised by Nelaton, should be made for relief If the obstruction has followed pelvic operation, an ileostomy may afford marked relief, a high obstruction demands jejunostomy for drainage or for nutritional purposes, and if the obstruction follows a gastro-enterostomy, the passage of a catheter into the stomach and down the jejunum through the gastro-enterostomy will accomplish the same results without narrowing the lumen of the jejunum In the presence of tetany, the tube must traverse the duodenum, being passed through the pylorus, and the patient saturated with lime

Early operation may be performed by reopening the abdominal incision Operation for obstruction after five days is best performed through a separate incision (Figs 1 and 2), as the cause of obstruction may be infection in the primary wound, with attachment and kink of the bowel at the infected point, and reopening the incision may spread the infection within the abdomen This may be prevented by working through a new incision The enterostomy tube for drainage or nutrition should also be passed through the omentum, and if infection was the cause of the trouble, the tube should be brought through a separate perforation of the abdominal wall at the point of election, permitting a better closure of the working incision This layer of omentum serves the same purpose as does the cellulose layer in the outer wall of battleships, closing the opening and preventing leakage after removal of the tube It also gives greater freedom than a direct adhesion of the intestine to the abdominal wall permits Such operations should be performed as far as possible under local anesthesia, or, in exceptional cases, under combined local and general anesthesia

In operations for relief of obstruction, it is often advantageous to be able to distinguish the proximal from the distal end of a loop of bowel Monk has suggested that the bowel be held in line with the spine, the thumb and finger enclosing the intestine If they are slipped down the mesentery, and if they pass directly to the mesenteric attachment without being reversed, the upper end is known to be proximal In order to distinguish the part of intestine to which an individual loop probably belongs without handling a great part of it, one should remember that the jejunum is much thicker and has a larger lumen than the lower ileum, also, the upper, thicker bowel has a thinner mesentery with translucent spaces, and there is much fat in the mesentery of the ileum which becomes thicker nearer its termination

ABSTRACT OF DISCUSSION

DR GEORGE W CRILE, Cleveland Dr Mayo has covered the subject, but I wish to emphasize three points which are most important 1 Intestinal obstruction demands immediate action, and yet the most careful and gentle action compatible with the relief of the obstruction It is essential not to do too much 2 It is extremely important in these cases to build up the water equilibrium of the patient who has been vomiting and has not been absorbing water Large amounts of water, even 7,000 c c, subcutaneously are indicated the first twenty-four hours 3 In order that the patient may have the proper oxidation within the tissues of the body, it is important, unless the circulation is good to give a blood transfusion, and to give it in advance of the indication of failure of the patient's organism If necessary morphin should be prescribed I am not afraid of giving large doses of morphin after the obstruction is relieved

DR C H MAYO, Rochester, Minn Twenty-five or thirty years ago appendicitis was discussed at every meeting of the American Medical Association Ochsner, Deaver, McBurney Murphy and others did a great deal to show that operation for appendicitis is safe in the first twenty-four hours, and that the danger is in the second, third and fourth days Ochsner's method of treating appendicitis seen too late for a safe early operation and too early for a safe late operation saved many hundreds of lives It appears to me that the mortality from appendicitis is greater today than it was twelve years ago when we stopped discussing the subject The important point to teach the younger men in the profession is that no time should be lost in examining such patients and in operating while it is safe to do so, instead of waiting for thirty-six or forty-eight hours Appendicitis is easily handled if it is attended to early A patient will never be lost because of a necessary exploration and many may be saved

Excessive Accident Fatalities in United States—The statistical bulletin of the Metropolitan Life Insurance Company announces that the number of deaths from accidents in the United States is twice as high in proportion to the population as that prevailing in England and Wales In the year 1920, which was characterized by lower accident rates than any year in the decade, there were 30,000 more deaths than would have been reported if the death rates of England and Wales had prevailed For the entire country, this means an excess of nearly 37,000 deaths The subjoined table presents the death rates per hundred thousand from principal external causes of death, 1920, in the United States registration area and in England and Wales

External Cause of Death	United States Registration Area	England and Wales
Total external causes	88 7	46 7
Accident and unspecified violence	71 4	36 9
Burns (conflagration excepted)	7 6	4 7
Drowning	5 7	5 0
Traumatism by firearms	2 6	3
Traumatism by fall	11 8	7 7
Traumatism by other crushing accident	21 6	10 2
Suicides	10 2	9 1
Homicides	7 1	8

PRIMARY CHANGES IN EYES OF RATS WHICH RESULT FROM DEFICIENCY OF FAT-SOLUBLE A IN DIET*

SHINNOSUKE MORI, M D
Chief of the Ophthalmological Clinic South Manchuria Railway Company Hospital
DAIREN, MANCHURIA

Of recent years, several investigators have described the eye disease which occurs in rats as the result of diets deficient in fat-soluble A Various names have

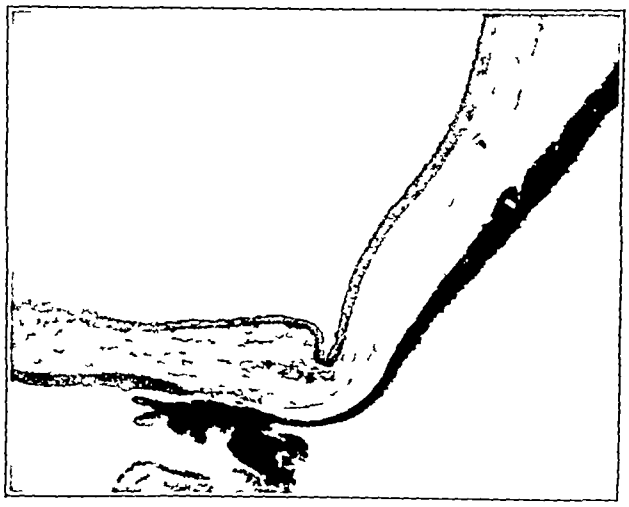

Fig 1 —Section through the normal eye in the region of the limbus

been given to this condition McCollum and Simmonds [1] termed it xerophthalmia They chose this name after careful study of the development, symptoms and treat-

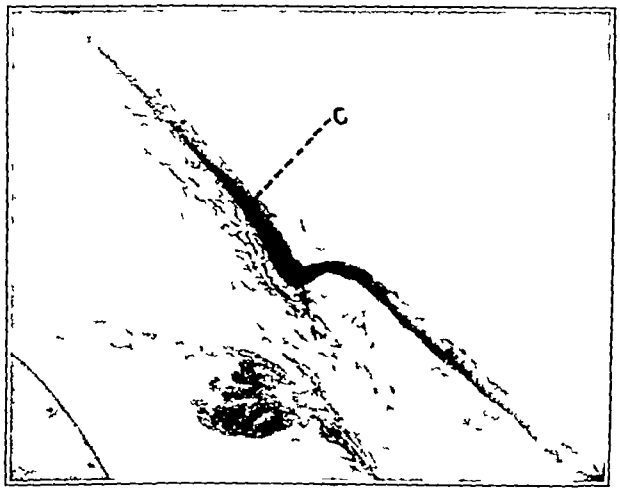

Fig 2 —Section through cornea and conjunctiva to show the beginning xerosis corneae and conjunctivae and the cornification (c) and thickening of the epithelium The substantia propria is thickened and infiltrated

ment of xerophthalmia as it occurs in rats and man Osborne and Mendel [2] preferred to use the more general term ophthalmia Goldschmidt [3] studied the pathology of the disease as it occurred among young

* From the Laboratory of the Department of Chemical Hygiene School of Hygiene and Public Health Johns Hopkins University

1 McCollum E V and Simmond Nina J Biol Chem 32 181 (Nov) 1917

2 Osborne T B and Mendel L B Ophthalmia and Diet J A M A 76 905 (April 2) 1921

3 Goldschmidt M Arch f Ophth 90 545 1915

rats on Hopkins' diet His studies convinced him of the identity of the lesion with keratomalacia in man, and he proposed giving this name to the disease in the rat Stephenson and Clark [4] also preferred this term to xerophthalmia, for the pathologic condition in the eyes of rats seemed to them to resemble keratomalacia more closely than xerophthalmia The reported incidence of the disease among animals in different laboratories on deficient diets varies a great deal Stephenson and Clark produced the disease in 28 per cent of forty-six rats Osborne and Mendel observed the ophthalmia in forty-nine out of 136 animals Walker [5] found five cases in his first group of sixty-four animals In his second group of thirty-eight rats, six developed sore eyes Emmett,[6] on the other hand has stated that out of his 122 rats 120, or 98 3 per cent, sooner or later showed positive signs of xerophthalmia The incidence of the disease in any group of rats will depend on whether the diet is entirely or only partially deficient in fat-soluble A, and on the age of the animals

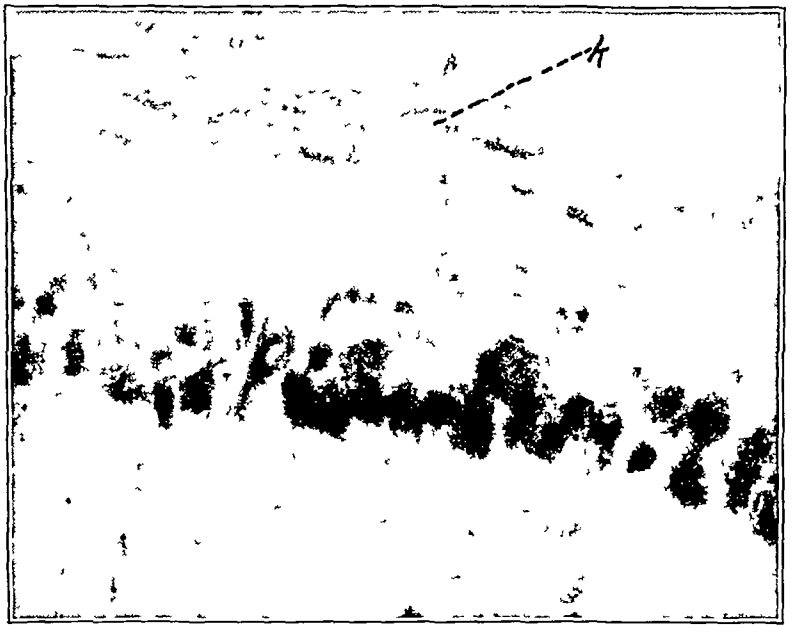

Fig 3 —Conjunctival epithelium showing keratohyaline (*k*) granules in the cells × 1 000

The pathologic changes in the eyes of experimental animals which were reported by Goldschmidt, Stephenson and Clark, Wason, and Walker, were for the most part those which result from inflammation and destruction or necrosis of the cornea No one has as yet described any specific preliminary alteration which is characteristic of this condition Stephenson and Clark [4] state that "the only criterion we possess for determining the preliminary change caused by the deficient diet is the appearance of the secondary symptoms caused by bacterial invasion," and they failed to demonstrate with certainty any histologic change in the cornea which preceded bacterial infection Wason [7] concluded that "no fundamental data concerning the etiology of ophthalmia in rats on deficient diet or the cause of the cornea localization have been derived from these anatomic studies"

The knowledge which we possess of ophthalmologic pathology, especially of the pathology of xerophthalmia and keratomalacia, would lead one to suspect that, if specific preliminary changes occur in the tissues of the eye before invasion by bacteria takes place, they will be found in the epithelium of both the cornea and the conjunctiva Therefore, if the disease in rats is to be identified with xerophthalmia or keratomalacia as they occur in man, the conjunctiva as well as the cornea must be the object of careful comparative study Such a comparison between the lesion of xerophthalmia in man and the eye disease produced in the rat by diets deficient in fat-soluble A was the object of my investigation The purpose of this paper is to report the early changes in the corneal and conjunctival epithelium which characterize the disease in the rat

Preparations were made from (*a*) the eyes of rats on a normal diet, (*b*) sore eyes without demonstrable affection of the cornea from rats on deficient diets, (*c*) eyes from animals showing clouded corneas on one or both sides, and (*d*) eyes with corneal ulcerations in several stages of development The eyes were fixed in 4 per cent solution of formaldehyd and embedded in celloidin, and stained with hematoxylin-eosin or with iron hematoxylin

The epithelium of the normal conjunctiva bulbi and the cornea consists of a superficial layer of flattened squamous epithelium, a deeper layer of polygonal cells, and beneath these a basal layer of columnar cells (Fig 1) Under normal conditions, the cells in the superficial layer retain their nuclei They are kept constantly moist by secretions The eyes of rats which have been fed on a diet deficient in fat-soluble A show two distinct and characteristic changes at the onset of the disease One of these is the cornification of the outer layer of epithelial cells of the conjunctiva bulbi, and the other the formation of granules of keratohyalin in the cytoplasm of the second layer of these cells The same cornification is also found in the corneal epithelium, but keratohyalin is not formed in the cornea except at the limbus In the process of cornification, the cells of the

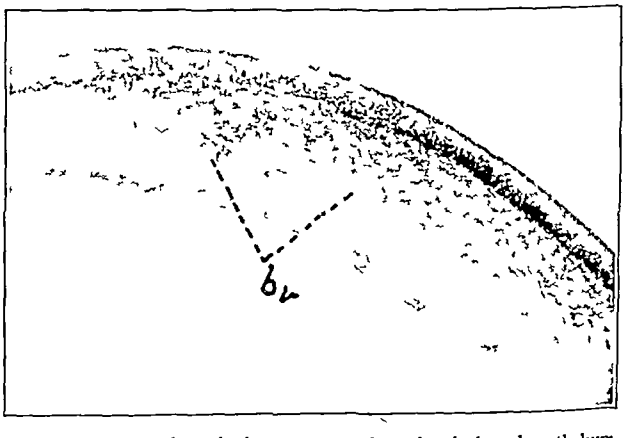

Fig 4 —Section through the cornea to show the thickened epithelium destruction of Bowman's membrane infiltration in substantia propria and vascularization by new formed blood vessels

4 Stephenson M and Clark A B Biochem J **14** 502 1920
5 Walker Sydney The Relationship Between Xerophthalmia and Fat Soluble A J A M A **78** 273 (Jan 28) 1922
6 Emmett A D Science **52** 157 1920
7 Wason, *Isabel* M Ophthalmia Associated with a Dietary Deficiency in Fat Soluble Vitamin (A), J A M A **76** 968 (April 2) 1921

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Fig 5—Section through the cornea showing epithelial necrosis followed by infiltration in the substantia propria and anterior chamber (*a*)

where that tissue joins the conjunctiva limbi The substantia propria shows a slight cell infiltration as a reaction to the epithelial change

In later stages of the disease, either one of two alterations may take place in the corneal epithelium The one consists of the destruction of Bowman's membrane and the abnormal thickening of the layers of epithelial cells, the superficial layer of which becomes cornified At the same time the number of corneal corpuscles is much increased in the propria The infiltration of the substantia propria by pus cells becomes more and more dense, and new blood vessels are formed in the tissue (Fig 4)

These xerotic changes, which, like the ones described above, have been shown to be the result of drying of the cornea, constitute a keratosis in the pathologic sense Another type of epithelial alteration is necrosis, which results from disturbance because of dryness in the nutrition of the cornea The corneal epithelium from the limbus to the center gradually loses its thickness The cells lose their nuclei, and the boundaries between the cells become indistinguishable The epithelium usually becomes infiltrated by pus cells At the same time the propria shows marked edema and diffuse cell infiltration as the result of the condition of the epithelium At last in some cases the epithelium is lost entirely over small areas of the central portion of the cornea, and the substantia propria is left bare In these cases the infiltration of the substantia propria by pus cells becomes very dense, and cellular exudates appear in the anterior chamber and the iris (Fig 5)

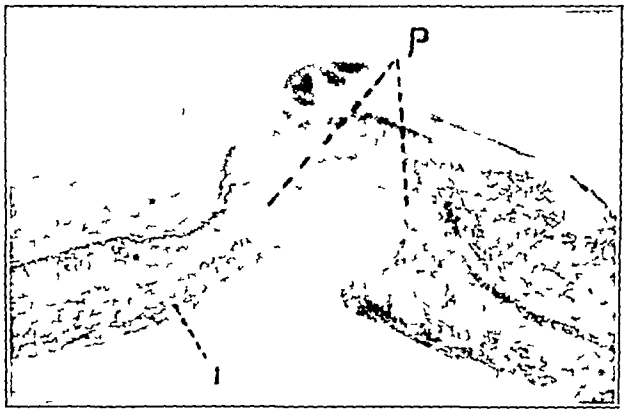

Fig 6—Section through an ulcer (perforated) in the central portion of the cornea which was destroyed the perforation (*p*) is closed with fibrin and pus cells the iris (*i*) is adherent to the cornea

These pictures are similar to those found in cases of keratitis e lagophthalmo in human beings, and are the result of drying of the epithelium of the cornea Very often in the course of the disease the rats' eyes show ulcers which frequently perforate (Fig 6)

As is the case in xerosis and keratomalacia in man, smears from the sore eyes of rats usually contain an enormous number of micro-organisms, such as the streptococcus, staphylococcus, pneumococcus, xerosis bacillus, and gram-negative bacilli, and cocci None of these, however, can be shown to have a specific relation to the disease Paraffin sections were made of eyes

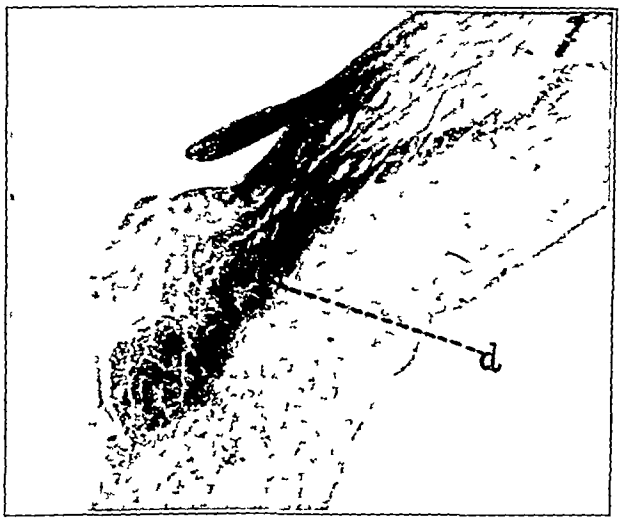

Fig 7—Section through a corneal ulcer showing necrosis of the upper layers the necrotic area is surrounded by a line of demarcation (*d*)

from different cases, normal and diseased, and these were stained with Gram-Weigert's stain and thionin to show, respectively, the gram-positive and gram-negative organisms The study of these sections reveals that, unless there are corneal ulcers, no invasion by bacteria of the cornea or conjunctiva takes places Enormous

8 Leber Theodor Arch f Ophth **29** 225 1883

rats on Hopkins' diet His studies convinced him of the identity of the lesion with keratomalacia in man, and he proposed giving this name to the disease in the rat Stephenson and Clark [4] also preferred this term to xerophthalmia, for the pathologic condition in the eyes of rats seemed to them to resemble keratomalacia more

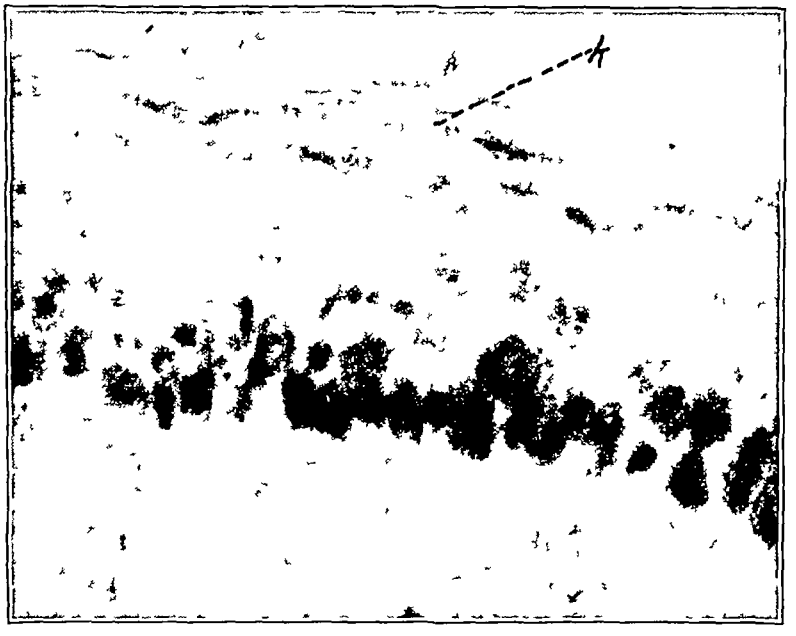

Fig 3—Conjunctival epithelium showing keratohyaline (*k*) granules in the cells × 1 000

closely than xerophthalmia The reported incidence of the disease among animals in different laboratories on deficient diets varies a great deal Stephenson and Clark produced the disease in 28 per cent of forty-six rats Osborne and Mendel observed the ophthalmia in forty-nine out of 136 animals Walker [5] found five cases in his first group of sixty-four animals In his second group of thirty-eight rats, six developed sore eyes Emmett,[6] on the other hand, has stated that out of his 122 rats 120, or 98 3 per cent, sooner or later showed positive signs of xerophthalmia The incidence of the disease in any group of rats will depend on whether the diet is entirely or only partially deficient in fat-soluble A, and on the age of the animals

The pathologic changes in the eyes of experimental animals which were reported by Goldschmidt, Stephenson and Clark, Wason, and Walker, were for the most part those which result from inflammation and destruction or necrosis of the cornea No one has as yet described any specific preliminary alteration which is characteristic of this condition Stephenson and Clark [4] state that "the only criterion we possess for determining the preliminary change caused by the deficient diet is the appearance of the secondary symptoms caused by bacterial invasion," and they failed to demonstrate with certainty any histologic change in the cornea which preceded bacterial infection Wason [7] concluded that "no fundamental data concerning the etiology of ophthalmia in rats on deficient diet or the cause of the cornea localization have been derived from these anatomic studies"

The knowledge which we possess of ophthalmologic pathology, especially of the pathology of xerophthalmia and keratomalacia, would lead one to suspect that, if specific preliminary changes occur in the tissues of the eye before invasion by bacteria takes place, they will be found in the epithelium of both the cornea and the conjunctiva Therefore, if the disease in rats is to be identified with xerophthalmia or keratomalacia as they occur in man, the conjunctiva as well as the cornea must be the object of careful comparative study Such a comparison between the lesion of xerophthalmia in man and the eye disease produced in the rat by diets deficient in fat-soluble A was the object of my investigation The purpose of this paper is to report the early changes in the corneal and conjunctival epithelium which characterize the disease in the rat

Preparations were made from (*a*) the eyes of rats on a normal diet, (*b*) sore eyes without demonstrable affection of the cornea from rats on deficient diets, (*c*) eyes from animals showing clouded corneas on one or both sides, and (*d*) eyes with corneal ulcerations in several stages of development The eyes were fixed in 4 per cent solution of formaldehyd and embedded in celloidin, and stained with hematoxylin-eosin or with iron hematoxylin

The epithelium of the normal conjunctiva bulbi and the cornea consists of a superficial layer of flattened squamous epithelium, a deeper layer of polygonal cells, and beneath these a basal layer of columnar cells (Fig 1) Under normal conditions, the cells in the superficial layer retain their nuclei They are kept constantly moist by secretions The eyes of rats which have been fed on a diet deficient in fat-soluble A show two distinct and characteristic changes at the onset of the disease One of these is the cornification of the outer layer of epithelial cells of the conjunctiva bulbi, and the

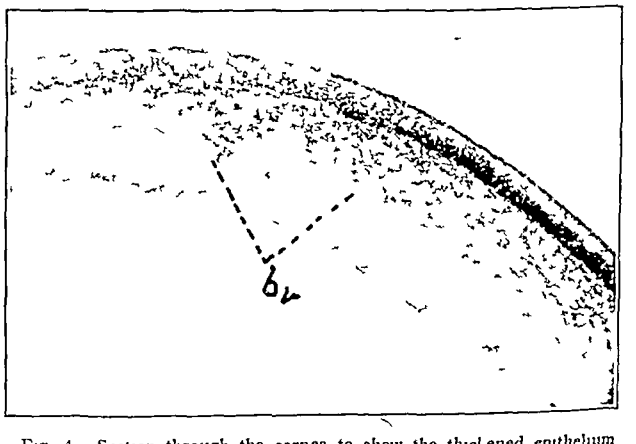

Fig 4—Section through the cornea to show the thickened epithelium destruction of Bowman's membrane infiltration in substantia propria and vascularization *b'* new formed blood vessels

other the formation of granules of keratohyalin in the cytoplasm of the second layer of these cells The same cornification is also found in the corneal epithelium, but keratohyalin is not formed in the cornea except at the limbus In the process of cornification, the cells of the

4 Stephenson M and Clark A B Biochem J **14** 502 1920
5 Walker Sydney The Relationship Between Xerophthalmia and Fat Soluble A J A M A **78** 273 (Jan 28) 1922
6 Emmett A D Science **52** 157 1920
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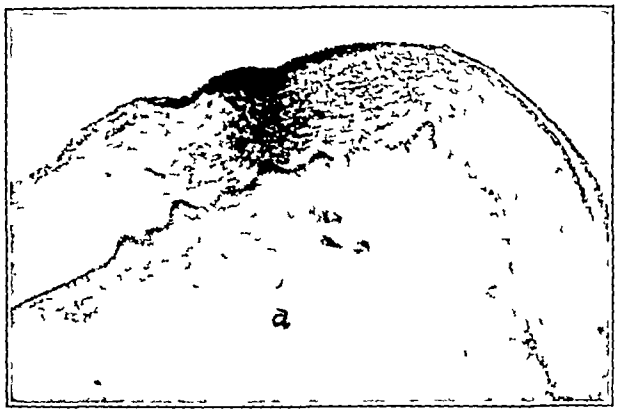

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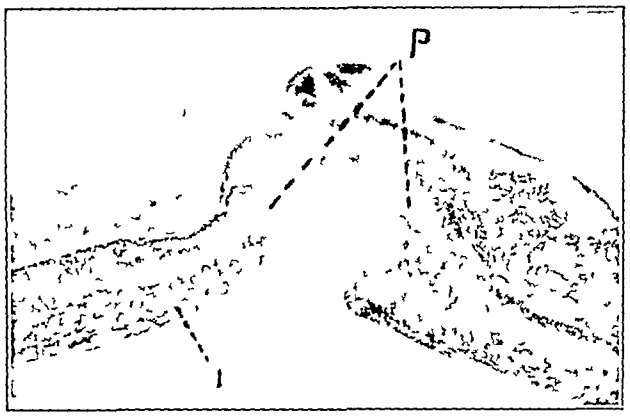

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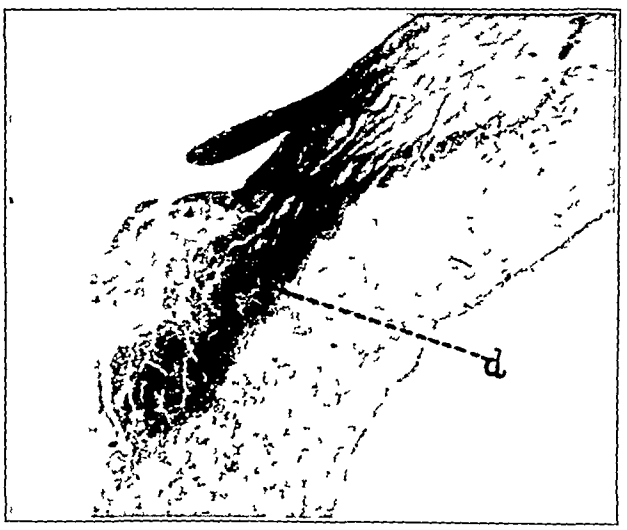

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numbers of cocci were to be seen on the surface of the ulcers. Where the epithelium is lost, the propria becomes necrotic and the necrotic area is surrounded by a line of demarcation. Sections stained with thionin show gram-negative bacilli deep in the corneal tissue beyond this ring of infiltration. The same conditions obtain in the so-called keratomalacia of man (Fig. 7). The study of this material indicates that the changes of xerosis of the conjunctiva and cornea are not the result of bacterial invasion, but that, on the other hand, ulceration of the cornea in these animals is due to infection, and that the infection is secondary to the primary changes I have described.

Many observers have reported that in many of their animals the eye disease was apparently unilateral, and that it was not produced at all in some rats. The histologic study of my material shows that at a period during the feeding of a deficient diet the conjunctiva in both eyes of all animals undergoes the microscopic changes of xerosis. Eyes which show these changes in the conjunctiva may be apparently intact on clinical examination, since the cornea is apparently normal.

In a later paper I shall discuss the relation between the deficiency of fat-soluble A in the diet and the dryness of the conjunctival sac, and I shall describe the defects in the normal secretory mechanism which result in the desiccation of the cornea and conjunctiva.

SUMMARY

The eyes of rats on diets deficient in fat-soluble A show xerosis conjunctivae and xerosis corneae (xerophthalmia). Xerosis is the essential change and is caused only by the dryness of the tissue. The ulcers of the cornea (keratomalacia) are secondary, and are due to secondary infection by micro-organisms.

MUSCLE INTERPOSITION

A CAUSE OF DELAYED UNION IN FRACTURE OF THE FEMUR *

F. C. KIDNER, M.D.
AND
CHARLES B. LAKOFF, M.D.
Attending Orthopedic Surgeon and Assistant Resident Surgeon Respectively, Receiving Hospital
DETROIT

Stimulated by the demands of the war, methods of treatment of all fractures have vastly improved during the last few years. With these improvements of methods worked out by experts, there has been a gradual raising of the standards of results demanded by the general public. Insurance companies, state compensation boards, employers of labor, and the injured men themselves are beginning to inquire more and more closely into the underlying reasons for prolonged or permanent disability following fractures. They are beginning to feel that most fractures should leave behind little or no disability, instead of feeling, as they used to do, that serious fractures must produce cripples.

These changes have thrown an added responsibility on all who essay to treat fractures. They have made it more and more difficult for the general practitioner or the busy general surgeon to care for fractures, and have led to a growing tendency to the establishment of fracture clinics directed by experts, and to the attempts of employers, and the insurance companies, to place their fracture cases in the hands of men who have made fractures their especial care.

All this is particularly true of fractures of the femur. These, above all others, require a large amount of apparatus, a knowledge of many methods of treatment, an especially trained personnel, and ingenuity, if a sufficiently high percentage of perfect results is to be obtained. These requirements are too great to be found in the home or to be given the patients scattered through the wards of the general hospital. They can be found only when considerable numbers of patients are grouped in properly equipped wards under the continuous care of an especially trained force. Whether the man in charge of this force is a general surgeon or an orthopedist makes little difference, if we assume that the general surgeon has the time and patience to devote to the necessary detail and that the orthopedist knows how to operate. It is only by the grouping of cases in such surroundings that we are going to be able to satisfy our public, and it is only thus that improvements in treatment and analysis of error will lead to ultimate standardization and perfect results.

Thorough belief in the foregoing statements justifies us in presenting a small group of cases which call attention to one of the causes of unsatisfactory results in fractured femur, which has received comparatively little attention. This is the interposition of muscle between the ends of the fragments. The cases are from our fracture service at the Detroit Receiving Hospital, a city institution which cares only for the poor, except in emergency, when patients from all walks of life are accepted. In such an institution only the victims of accident who are poor remain under its roof till the final result is obtained. Those who are well-to-do and who come under the employers' liability act are removed as soon as possible to the care of their private physician or to other hospitals. Thus it is difficult to follow all cases to their final results.

From January, 1921, to April, 1922, there were treated in the fracture service a large number of fractures of the femur. Seventy-one of these patients survived their injuries or remained in the hospital for more than one week. All of the seventy-one stayed in the hospital long enough to provide records which will show the final results. These results will be made the subject of a later paper. All of the seventy-one were treated primarily by some modification of Balkan suspension and Thomas splint, with adhesive tongs or Steinmann pin traction combination, with or without prompt active mobilization of the adjacent joints. So far as we know, these are the methods used in all the large fracture clinics, except when some individual patient has insisted on some special operative procedure. In the seventy-one cases, open operation was done for only three reasons: (1) interposition of muscle tissues between the fragments, (2) for debridement of fresh compound fractures, and (3) for previously existing sepsis in cases treated elsewhere before entrance to the hospital.

Of the first class, interposition of muscle, there were six cases. This, according to accepted standards, is an extraordinarily high percentage. It is certainly high if we compare it to fractures resulting from war wounds. In a very large number of war fractures of

* *Read before* the Session on Orthopedic Surgery at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

the femur, both fresh and old, which came under my personal observation overseas and later in this country, I saw only one in which delayed union resulted from this cause This particular case was that of a soldier whose femur had been broken by the kick of a mule and not by a true war wound In talking with other surgeons, I have found that their experiences coincide with mine The reason for the fact that muscle interposition figured rarely in the healing of war wound fractures of the femur, we believe to be twofold 1 The high velocity rifle or machine gun bullet did not displace the main fragments to any great extent 2 The shell wounds which did cause much displacement were always accompanied by great damage to soft parts which required immediate exploratory operation and direct replacement of the bone

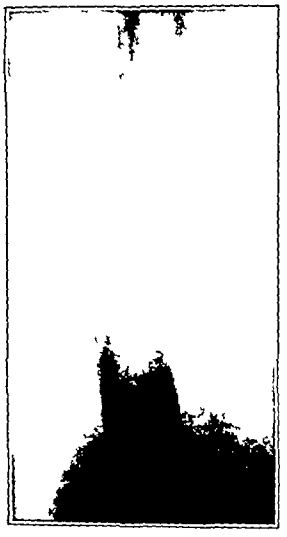

Fig 1 (Case 1)—Overextension but persistent displacement

In civil life, however, most of the forces which cause fractures of the femur involve great lateral or twisting displacement without necessarily causing large, open wounds Such forces are the fall from a great height, the automobile smash, and the crush under heavy weights They displace the fragments largely, thus giving the muscle masses an opportunity to slip between them and be held there by their own elastic quality

All of our cases, of which a brief protocol follows, were the results of automobile injuries, or falls from heights, etc

REPORT OF CASES

CASE 1—H P, aged 20 received a simple fracture of the middle and upper third of the right femur in an automobile collision Jan 22, 1921, roentgen-ray examination revealed an outward and forward displacement of the upper fragment, with shortening Three days later the shortening was overcome, but the upper fragment was still displaced as before Two weeks later the shortening was completely overcome, and lateral alinement was good, but anterior displacement of the upper fragment persisted One month later, the shortening was overcorrected Five days later the same condition existed Six weeks later there was increased anterior displacement of the upper fragment March 17, there was no union and anterior displacement persisted Operation was performed through a lateral incision There was no callus the whole body of the biceps was interposed between the fragments and held by jagged fragments of bone The muscle was freed whereupon reduction of the fragments became easy They were held by kangaroo tendon A plaster cast was applied Convalescence was very slow, bone formation being delayed There was recurrence of outward bowing In February, 1922, union was firm with outward bowing There was three-fourths inch shortening The knee had 35 degrees of motion

CASE 2—M Y, a man, aged 31 sustained a simple fracture of the middle third of the right femur by falling from a scaffold May 23, 1921, roentgen-ray examination revealed the upper fragment displaced anteriorly with some shortening Four days later the shortening was overcome, but anterior displacement of the upper fragment persisted June 10 lateral alinement was good and there was no shortening, but the upper fragment was still displaced anteriorly June 23, a mass of muscle tissue between the fragments was freed The ends were brought together easily and held with kangaroo tendon Slow convalescence ensued, not due to sepsis but to mental and circulatory disturbances The wound healed by first intention, but the fragments slipped because of the patient's violence August 3 there was no union, and there was forward displacement of the upper fragment Since then the patient has been treated at another hospital with a Lane plate, but nonunion persists The fragments did not unite ultimately for reasons outside the muscle interposition

CASE 3—B T, a man, aged 33, received a simple fracture of the middle and lower third of the left femur by a fall from a scaffold Oct 1, 1921, roentgen-ray examination revealed persistent backward displacement of the lower fragment to a mild degree At the end of eight weeks of treatment, including manipulation under an anesthetic, no callus had formed In an open operation, November 22, a mass of muscle between the fragments was freed with great difficulty The fragments were held with kangaroo tendon A plaster spica was applied Two weeks later they slipped out of position in spite of the plaster December 20, a Lane plate was applied It was removed in five weeks Position was perfect but there was no bony union In April, 1922, union was gradually forming

CASE 4—L M aged 21, received a simple fracture of the middle third of the right femur in an automobile crash Roentgen-ray examination Nov 28 1921 revealed a fracture of the upper third of the right femur The lower fragment was displaced slightly to the inner side and posteriorly There was slight shortening A roentgenogram taken December 8 ten days later, in the anteroposterior position, revealed the alinement as being very good A lateral view disclosed posterior displacement of the lower fragment There was no shortening A roentgenogram, December 28 five weeks after the injury revealed no union and no shortening Posterior displacement still persisted Operation Jan 3 1922 revealed the lower fragment displaced backward with separate fragments between it and the lower end of the upper fragment Large muscle bands were found intertwined among the fragments holding them apart These were cleaned away, and anatomic reposition of the fragments was obtained A Gallie beef bone plate held the fragments well Convalescence was slow, callus formation was delayed but this may have been due to the fact that the patient was pregnant May 9, a roentgenogram disclosed a large amount of callus Position was good The patient was up and about A caliper splint was employed

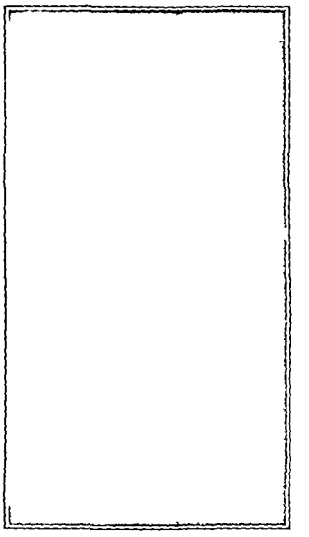

Fig 2 (Case 1)—Reduction after operation for removal of interposed muscle

CASE 5—G B, a man, aged 27 received a simple fracture of the lower third of the left femur Roentgen-ray examination, March 21, 1922, revealed a transverse fracture of the left femur 4 inches above the left knee joint The lower fragment was displaced posteriorly, with about one and one-fourth inches overriding A roentgenogram March 27, revealed the lower fragment still considerably displaced posteriorly At operation March 30 the lower fragment was found displaced backward into the popliteal space It was held there by a dense band of fascia and a tendon of the semitendinosus It was freed with some difficulty and brought forward into perfect apposition with the upper fragment It was held by a Gallie beef bone plate and screws A roentgenogram April 4 revealed good position Another, taken May 11, revealed a considerable amount of callus but the bone plate did not hold firmly There was forward and inward bowing This was easily corrected by lateral and longitudinal traction

CASE 6—M H, a woman, aged 23, entered the hospital, Oct 27, 1921, with a simple fracture of the lower third of the left femur The lower fragment was displaced inward and backward October 18 a roentgenogram revealed the lower fragment still displaced posteriorly and inward There was no apposition October 25 a roentgenogram revealed the same position Shortening had been entirely overcome November 15, the patient was operated on at another hospital Muscle interposition was cleared A Lane plate was applied Union was prompt

CONCLUSIONS

1 If the fragments of a fracture of the femur are not brought into actual bony contact, as shown by the roentgenogram taken in two places, by properly applied traction within three or four days, the case should be viewed with suspicion

2 If specially worked out methods are not immediately thereafter successful, manipulation under an anesthetic should be employed This attempts to disengage the fragments from the muscle Such disengagement can usually be recognized by the clean, clear-cut rubbing of the fragments on each other

3 If, after such manipulation and the reapplication of traction, apposition is absent at the end of two or three days, as disclosed by roentgen-ray examination, open operation should be undertaken

4 At open operation, the muscle or fascia bands must be cleaned from the fragments and good apposition obtained If this apposition is of the end-to-end, interlocking type, then only external fixation splinting is necessary If there is a tendency of the fragments to displace again, some solid forms of internal splint must be used Gallie's beef bone plates or Magnusen's ivory plates and screws or pegs will usually suffice Both are more simple of application than Albee's grafts When they will not hold, metallic plates or bands are occasionally necessary

1337 David Whitney Building

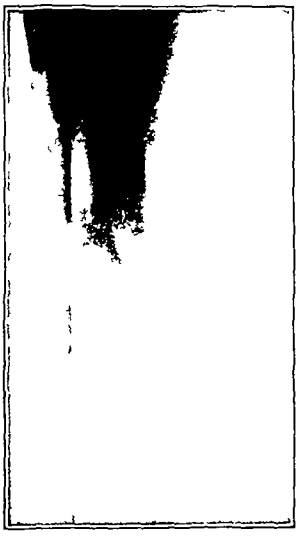

Fig 3 (Case 3)—Persistent backward displacement with full length after use of various forms of traction

ABSTRACT OF DISCUSSION

DR WILLIAM R CUBBINS, Chicago I have never seen muscle directly between the fragments of bone when the limb has been extended on a Hawley table The tension made in extending the limb will make the muscles taut, so that while there may be a few ragged fragments of muscle tissue between the ends of the bone, there is not sufficient quantity of muscle between the bone to interfere with union It is well to remember that a little muscle tissue subjected to pressure will rapidly disappear In my opinion, the greatest catastrophe in cases of fractured femur is an operation and infection Disability will continue from six months to six or seven years, fragments of bone being discharged at intervals If the wound is clean and a foreign body is inserted, the area surrounding the site of implantation has an increased amount of heat, which can easily be detected by the examining hand Some persons do not pay much attention to this heat, but a sensitive individual has sufficient cause for claiming disability and the industrial boards before which I have appeared believe this to be sufficient cause for disability When a surgeon is forced into an operation and a plate must be used, by all means use a long, strong plate, with plenty of screws to insure stability, and remove the plate when union has been obtained In my opinion there is no difference in the degree of insult to tissues from steel, ivory or boiled bone They are all foreign bodies I have not been able to see any difference in the degree of insult to tissues by screws through the medullary cavity or merely into the cortex An autogenous bone graft should always be used when possible, and this graft should be made to fix the fragments without the addition of any foreign body Intramedullary bone pegs act well in young persons, very poorly in the aged If an infection occurs with an autogenous bone graft, it is not uncommon to see the bone graft live in spite of the infection My results in treating fractures of the femur by conservative methods during the last three years have been so satisfactory that I sometimes doubt whether I will ever employ an open operation

DR C B FRANCISCO, Kansas City, Mo Dr Kidner limited the indications for open operation to three particulars muscle tissue between the fragments, debridement and sepsis There is one guide in this connection that has helped me and that is, that usually there is a comminution of the fragments and a fragment of bone is knocked across to the opposite side, carrying with it fascia or muscle tissue which is interposed between the fragments I think that one should, as Dr Kidner says, determine this factor reasonably soon because the delay in waiting until union should occur is a great hindrance to throwing out of the callus, and, as he stated, those cases that have gone along for six or eight weeks and were then treated by operation showed a definite delayed union I think also it is very much easier to reduce cases if one tries traction continuously I think the more we try the fewer the number of cases in which open operation is required

DR PHILIP H KREUSCHER, Chicago In the management of any other fracture, the personal equation of the surgeon comes into play Some of us can get very good results with external fixation methods and some can get better results with internal fixation We cannot lay down any law saying one must use Parham-Martin bands, Lane plates or any other appliance in a given case We have been criticized for making walking hardware stores out of our patients because we put in too much metal In a way the criticism is justified I sometimes think we go around looking for fancy splints external and internal, which are unnecessary, when we could use the simpler methods already at our disposal There is a definite indication for the Parham-Martin band, when there are two or three fragments to hold together In the ordinary spiral fracture, it is also of value We should use the Lane plate more than we are using it Some of us do not use the Lane plate properly In the first place, we do not put it in cleanly, the screws become loose, the blood clot becomes infected and the plate has to be taken out If we keep our fingers and the fingers of our assistants out of the wound we are going to do that operation cleanly If we tear muscles we are going to have a certain amount of postoperative trauma and postoperative heat If we expose the bone by following a line of cleavage and do not use heavy retractors but use instead the Farr spring retractors when we are putting on a Lane plate, we will get better results with less trauma Do not try to put it under the periosteum Do not try to put a rectangular screw into a triangular drill hole Use the Sherman screw that will fit down in the hole in the bone and you will have little trouble I disagree with Dr Cubbins when he says that transplants are indicated for fixing the fragments in place I do not believe they stabilize the fracture In the second place, I believe it is too excessive an operation when you have so many other methods you can employ

DR H D WOOD, Fayetteville, Ark I use an improved Hodgen splint It is a splint that can be used in transporting the patient from the place of injury to the home or hospital with as much or more comfort than when the Thomas splint is used I treated my first case of fractured femur more than fifty years ago As Hodgen said 'If you put the fractured limb in a swing and make slight continuous extension, the muscles will relax and permit the fragments to fall in place" He also said, 'When you put your patient's limb in this type

of splint or swing, motion will occur at the place of least resistance, which is the hip joint" I have found that to be the case I have found it a convenient way to treat a compound fracture of the femur when there is an abscess discharging pus You can release one of the bands coming under the limb and dress the wound without disturbing the fracture

DR P B MAGNUSON, Chicago I think Dr Kidner has expressed the views of most of us when he said that he had tried all methods and none of them worked all the time I think most of us who have done fracture work fully appreciate that We condemn the Lane plate and the ivory plate and the bone plate, but when we operate we ought to have them all handy so that we can use whatever is necessary for the case We cannot tell from the outside what we are going to have on the inside I disagree very materially with Dr Cubbins' statement that the Lane plate does not cause any more traumatism or irritation than bone or ivory In the first place, I do not think that it is proper from a purely mechanical standpoint In the second place, those of you who have taken out Lane plates know that many of them have a collection of serum about them I disagree with Dr Kreuscher that the infection is primary Many of them show a little swelling and a seepage of fluid six weeks after Dr Cubbins took out a plate six years ago that Mr Lane put in eight years ago, because it was bothering the patient It is true that all these things loosen up You can say what you like about dead bone, ivory or autogenous graft, they all loosen up at some point in the procedure After that they may tighten up if they are not warped, but I never saw a Lane plate tighten up after it was once loosened If you were to be operated on, you would not care to have to undergo a second operation later to take out something that was put in to do the first job, when you could have had something put in to stay

DR FREDERICK C KIDNER, Detroit I must disagree with what Dr Cubbins says about muscle interference in fractures with traction I have operated and found muscle intervening no matter how hard I pulled even on the Hawley table I agree we should use every effort to get the fragments together without open operation As to bone grafts, I do not think they are better than any other means of internal fixation They do not give the rigidity in difficult cases that metal, ivory or beef bone often does They are very useful, perhaps, in ununited fractures The longer we wait in these muscle interposition cases the slower will be the convalescence following the operation Therefore, I am learning to try to recognize these cases and get my open operation done by the end of a week or ten days The matter of Lane plates becoming septic is to my mind dependent on the surgeon only I do not believe it is any wiser or more necessary to operate on bone with long instruments without the use of fingers than it is in the abdomen I think the resistance of muscle and bone to infection is just as great as the resistance of the abdomen I still believe that the use of gloved fingers does less harm and causes less traumatism than does a strictly instrumental technic

Complete Hospital Data Lacking—In no American city of any size is it possible to give the total number of cases admitted to the hospitals, both public and private, the diseases for which entrance was sought, the age and sex distribution of the patients, the duration of treatment and the result of the treatment It is a blemish on the excellent work done by hospitals that this phase of their activities has been left undeveloped almost without exception in the United States—H Emerson, *Hosp Soc Service* **4** 271 (Nov) 1921

A COMPARATIVE STUDY OF ETHMOIDAL AND SPHENOIDAL OPERATIONS*

J J SHEA, M D
MEMPHIS, TENN

The appreciation that the posterior ethmoidal cells and the sphenoidal sinus are the causative factors in many of the optical nerve disorders has centered attention on this region Formerly, the anterior ethmoidal cells held the center of the stage in our attention because of their relationship to the frontal sinus The older operations were so designed that the anterior cells were first attacked and were more thoroughly exenterated at the expense of an uncertainty of thoroughness in the posterior region If the sphenoidal sinus and the posterior ethmoidal cells are the important factors, then the successful operation must be based on thoroughness in their exenteration In like manner, the curet, guided by the sense of touch, must give way to the trustworthy biting forceps, controlled by the sense of sight The fundamental law of safe ethmoidal and sphenoidal surgery is to work by sight only, avoiding tearing by accomplishing each removal with a clean bite It is intended to compare the intranasal operations and not to consider the radical operations

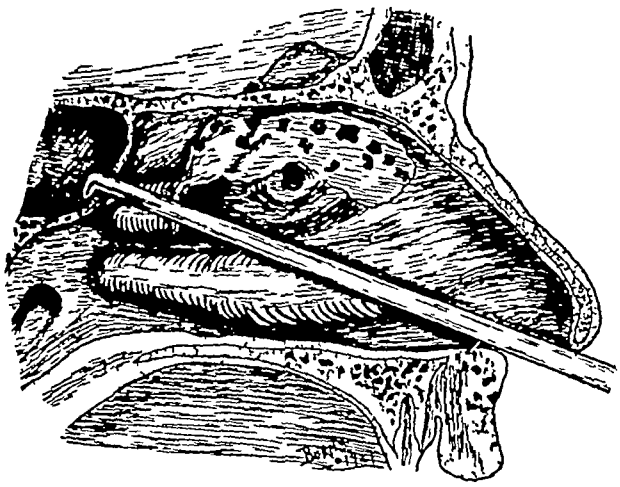

Fig 1—Fleshy posterior tip of the middle turbinate being used as a landmark for the puncturing of the sphenoidal sinus

ANATOMY

The ethmoidal and sphenoidal sinuses are so closely articulated as to be considered one structure The division between the anterior and posterior cells cannot be made out surgically, nor can the posterior cells be completely exenterated without removing the pars ethmoidalis, which will open the sphenoidal sinus The middle and superior turbinates are only specialized portions of the ethmoidal bone The optic nerve is in close relation with the lateral and superior aspect of the sphenoidal sinus and usually with the postero-external angle of the last posterior ethmoidal cell Its course forward in the orbit carries it farther away from the inner orbital wall the farther it goes forward, so that it is increasingly removed from the possibility of contact with the anterior ethmoidal cells Hence, in disturbances of the optic nerve, the usual or logical site of a causative nasal lesion is in the sphenoid or posterior ethmoidal cells [1]

The middle turbinate is so situated that its posterior end is anterior to the sphenoidal sinus and is a reliable landmark in locating the sinus

There is a type of spheno-ethmoidal labyrinth similar to the persistent infantile type of mastoid, that is, the cells are small and their walls firm, and this condition may be due to an arrested development When this

* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Loeb H W and Wiener Meyer Ann Otol Rhinol & Laryngol **30** 74 (March) 1921

type is encountered, the pathologic condition present is chronic, and the postoperative healing is slow

PHYSIOLOGY

The special sense of smell is a subject for consideration in ethmoidal surgery The protection of the membrane lining the superior turbinate and the septum opposite to it will preserve this sense It is very embarrassing to the surgeon for the patient to lose this sense but this will happen if the membrane lining the superior turbinate is totally destroyed

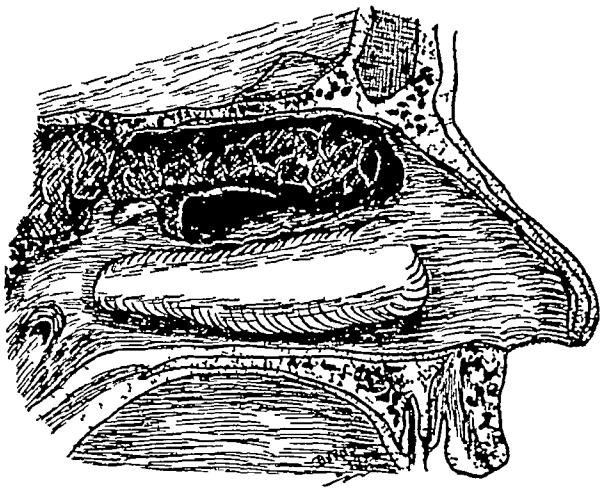

Fig 2—Completed operation thoroughness of the exenteration of the posterior ethmoidal cells

OPERATION

A description will be first given of a composite operation that has for its advantage a greater chance of thoroughness in resecting the anterior wall of the sphenoid and exenterating the posterior ethmoidal cells, and then a comparison of its advantages with the usual textbook operation will be considered The operation is based on the good points of operations discussed Through the courtesy of Dr Loeb I will use for illustration and description the operations as outlined in his book [2]

The patient, having been thoroughly anesthetized (local preferred), is placed in a semiprone position or upright, with an assistant supporting the head The position assumed by the patient should not be allowed to distort one's surgical anatomy The middle turbinate is completely removed This will always leave a fleshy tag at its postero-inferior attachment The sphenoidal sinus is situated immediately posterior to this tag, and at all times this tag may be used as a landmark in orientating oneself in this region

By passing the sphenoidal punch alongside this tag the sphenoidal sinus can be directly entered at its safest point (the inferomesial aspect) The pars nasalis is resected with due reverence to the position of the posterior branch of the nasopalatine artery Yankauer has given us a method of attacking this vessel and eliminating it as a complicating factor This is detailed under his operation The resection is carried outward and, by the removal of the pars ethmoidalis, the posterior ethmoidal cells are entered If there are any atypical ethmoidal cells surrounding the sphenoid or any extending laterally, they are easily entered and their partitions removed A small piece of gauze is now placed so as to fit against the nasopharynx and lessen the amount of blood that will run down into the throat The exenteration of the ethmoidal cells is accomplished with suitable biting forceps, starting from behind and working forward at the level of the attachment of the middle turbinate The cells are thus reduced in layers from above downward The cells which lie above the attachment of the middle turbinate are removed by using the forceps in such a position that the longer blade is toward the median line This will prevent injury to the cribriform plate The mucous membrane covering the uncinate is reduced, and with suitable forceps the anterior cells are removed Occasionally it will be necessary to use a curet in this anterior position to expose the foremost cells, but their removal is accomplished with biting forceps If there has occurred a hypertrophy of the ethmoidal cells, to such a degree that they obstruct the vision of the posterior region, then the obstruction must be reduced before the more delicate posterior surgery is undertaken In like manner, if the septum is deflected and will interfere with free instrumentation at the time of operation or in the after-treatment, it should be resected

As all the operating is done by sight, the field must be kept clean of blood The use of a suction tube will expedite matters At first we used a glass drinking tube by attaching it to the suction side of the ether suction machine, but it was found to be too large to enter many of the sphenoidal cavities, so Mr V Mueller made us a removable tip for the instrument described by Walker

Yankauer [3] recommends irrigation of the nares with iced saline solution when the action of the epinephrin has died away

PRATT'S OPERATION

Dr J A Pratt [4] presented in 1919 an operation in which the middle turbinate was allowed to remain His description of the technic is given below

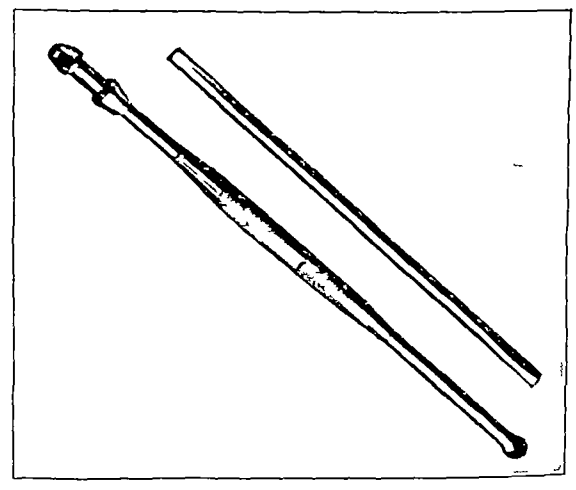

Fig 3—Suction instrument for intranasal use made by modifying the tip of the instrument designed by Walker

The anterior cells are opened with the nasal cutting forceps biting just under the anterior end of the middle turbinate, pointing toward the corner of the eye and continuing backward and upward as long as there is soft bone encountered

We take the straight end of the curet and, with a

2 Loeb H W Operative Surgery of the Nose Throat and Ear St Louis C V Mosby & Co

3 Yankauer Sidney The Complete Spheno Ethmoid Operation Laryngoscope 31 831 (Nov) 1921

4 Pratt J A Tr Am Acad Ophth & Oto Laryngol, 1919

and the sphenoid cell have been opened, their entire inner walls and the partitions which separate them being completely removed and all converted into one single cavity." The sphenoid is attacked early in the operation and its anterior wall resected, exposing any hidden posterior cell. Yankauer localizes his roof by utilizing the upper limits of the sphenoid or the posterior ethmoidal cell. "The anterior cells are opened from behind forward, until the anterior limiting line has been reached which is the rounded border of the nasal process of the superior maxilla."

Comment.—This operation is full of wisdom and, if followed, will render favorable results and be a source of benefit to the chronic ethmoidal cases.

ABSTRACT OF DISCUSSION

DR. FRANK L. DENNIS, Colorado Springs, Colo.: Dr. Shea has emphasized that it is much better to work from behind forward, because one has the advantage of seeing what one is doing. The method of proceeding from before backward has the disadvantage of obscuring the field, not only by blood, but the entire front of the nose is filled with a mass of debris. Another point he brought out that is of importance is that it is necessary first to create a passageway for the operation. In other words, if the septum is deflected to one side, if the anterior end of the turbinate is enlarged, one must first create room for operating. The impression is given that the ethmoid operation does not amount to much. That is not true. There is too close a relation of too many important structures for any one to operate in the ethmoid region without the greatest care and without being able to see what he is doing. Not only should a roentgenogram be made of the sphenoid and ethmoid, but the nose itself should be studied beforehand. Dr. Shea did not say anything about hemostasis or anesthesia. Both are very important in the success of the operation. Another point is the importance of the after-care of these patients. The general idea is to leave in place as much as possible of the lining membrane, but whether that is practicable in many cases is a question in my mind. Many times one must take out much more membrane than one thinks desirable. Therefore, I think that in all these ethmoid operations the importance of the after-care should not be overlooked.

DR. T. E. CARMODY, Denver: The one point we must keep in mind is that we are coming to recognize the value of controlling hemorrhage. The nasal operations that we saw up to two or three years ago were bloody operations. The control of hemorrhage as brought out by Yankauer and Shea is simple and will help a great deal. I have found that an ordinary large sized eustachian catheter will answer the same purpose as the suction apparatus or Shea's instrument. In some cases the middle turbinate can be left but we ought to be careful about leaving it when there is marked enlargement in the middle turbinate, because it will close the space and we shall be unable to take care of after-treatment as well.

DR. JOHN A. CAVANAUGH, Chicago: It is a difficult proposition to make roentgenograms that show positively whether the sphenoid is a definite size unless one injects it. I have injected these sphenoids with barium solution suspended in malted milk. I was surprised at the variations these sinuses revealed. The ethmoids on one side are always superimposed on the ethmoids of the opposite side, and it is difficult to separate them in the picture. In the last year I have been cocainizing the nose and introducing small films into the nasal cavity between the middle turbinate and the septum, placing markings on the anterior wall of the sphenoid and various points of the ethmoids and along the lower edge of the middle turbinate. This work is not completed. I hope that something will come of it. Regarding the sphenoid operation, and the picture showing the removal of the anterior wall of the sphenoid, some of you may have seen the burr I devised for removing this wall. I have not been able to find biting forceps to take down this wall of the sphenoid completely. But with my burr one can remove the entire wall and floor, which gives perfect drainage.

DR. EDWIN MCGINNIS, Chicago: When Dr. Mosher first brought out the anatomy of the ethmoid region with complete exenteration, curettage and cleaning up afterward with biting forceps, it seemed that we had reached very satisfactory results in operative surgery. A year later Dr. Shambaugh gave some data of exenteration which seemed to emphasize the result. During the last year, however, I have had three or four patients who had had complete exenteration of the ethmoid and who had reinfection of the cells that remained. If we could exenterate the sphenoid and antrum, I think that exenteration of all the cells would be the ideal operation. Of course it is impossible to eradicate the antrum—Killian used to obliterate the frontal, but it is impossible to eradicate the sphenoid. One gets very enthusiastic about this thing, because if one can clear up the olfactory region in the narrow space between the middle turbinate and the turbinal plate, very often these patients will recover. A high septum operation will clear it up in many cases. Many of the patients do not do well. Study of the ethmoid region will reveal that the middle turbinate divides the two groups of cells, anterior and posterior and the posterior cells are larger and have larger openings. But it is hard to examine these posterior cells the anterior group are easy to observe. I proposed a drainage operation two or three years ago. I made an incision into the anterior ethmoid cells up to the frontal sinus extending this through the posterior cells and back to the anterior wall of the sphenoid. Dr. Yerger gave the statistics in regard to infection of the sphenoid at the county hospital in the cases that came to postmortem. The sphenoidal sinus was the least infected of all of the nasal accessory sinuses. If one drainage operation does not do any good, one can do another, and, if the second drainage operation does not give results, one can then exenterate. For two years I have not disturbed the middle turbinate and have not exenterated the ethmoid labyrinth, and the patients do just as well as those who have had exenteration of the ethmoid.

DR. FRED J. PRATT, Minneapolis: I want to protest against removing the middle turbinate. The middle turbinate is a good thing to have as a guide during an ethmoid operation. The openings in the cribriform plate are between the middle turbinate and the septum, and if one removes the turbinate one opens an avenue for infection into the brain which can be avoided if one keeps the middle turbinate and works under it. Speaking of cleaning out the ethmoid, every one knows that there are accessory cells. Often we cannot find these the first time. The only thing to do, after exenterating the ethmoid, if the case does not clear up, is to go back and find out where the trouble is. The doctor spoke about not being able to keep the space open under the turbinate if it is left in place. Granulations form even if one removes the turbinate, and if the turbinate is left, all that is necessary to do is to follow around the opening and bite off the granulations. One can do this just as well by leaving the turbinate as by removing it. Another thing tending to prove that the middle turbinate is of some use is that one will find in cases in which the turbinate was removed years before that Nature has put soft hypertrophies on the lateral wall and septum trying to narrow the space. I think that this is proof that the middle turbinate is of some use.

DR. JOHN J. SHEA, Memphis, Tenn.: It requires from six to twelve months to obtain permanent results after an exenteration of the ethmoids in many of the cases and during this period the patients should be treated carefully. Unless the sight is at stake an ethmoidal case should be treated a month or two before operating, unless gross pathologic conditions are present. The discharge will change its character after the cells have been exenterated but will not cease entirely. If the discharge remains purulent, scabs will be formed, but the cases are not troubled by dryness, as one would expect. A method of outlining the sphenoid of one side, when inspection fails to be satisfactory, is to insert the Holmes nasopharyngoscope into the other sphenoidal cavity

close, to sanction such radical procedures *en masse* Then, too, there are so few perfect labyrinths, and the anatomic variations are so great, that the method is limited to only selected cases, in the hands of a very few surgeons

HAJEK'S OPERATION

Hajek resected the middle and superior turbinate with his hook and reduced the anterior wall of the

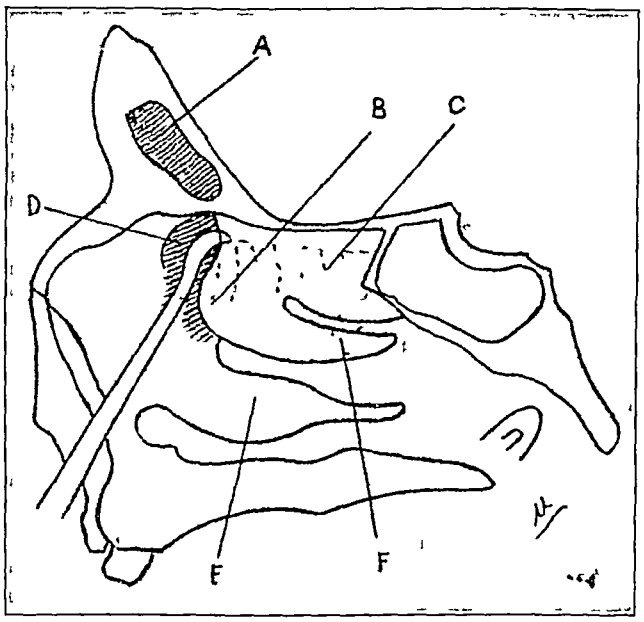

Fig 6.—Mosher s operation exenteration of the ethmoidal cells from before backward

sphenoid and the posterior ethmoidal cells with the same hook, by inserting the hook posteriorly and drawing it forward and removing the shreds with forceps [1]

Comment.—This was the first operation which attacked the sphenoid primarily, and which worked from behind forward

SLUDER'S OPERATION

Sluder's technic is an improvement on that of Hajek's, and the hook is replaced by a Sluder ethmoid knife, so constructed that the cutting edge is turned at right angles to the shaft and sharpened so as to cut on the pull, with the lower part of the shaft supporting a sharpened edge The middle and superior turbinates are removed with the knife The sphenoid is attacked directly, and the pars nasalis and the pars ethmoidalis are resected, thus exposing the posterior ethmoidal cells The ethmoidal capsule is resected by a series of strokes from behind forward, and working away from the roof With suitable forceps, the fragments are removed and the field is made surgically clean [2]

Comment.—The same may be said of this method as of the method of Hajek, that the sphenoid and the posterior ethmoidal cells may be thoroughly exenterated Early attention to the posterior region insures the success of the operation

REAVES' OPERATION

Reaves,[6] in 1919, emphasized the value of sharp biting forceps, and the fact that the only acceptable operation is one that completely exenterates all the cells and resects the anterior wall of the sphenoid He also calls attention to the fact that the mucoperiosteum curetted or stripped by dull forceps from the roof and wall will be covered over by granulation tissue, which becomes scar tissue or a boggy mass to harbor infection Reaves removes "the middle turbinate, the vertical plate of the ethmoid with the superior turbinate and lower half or two thirds of the ethmoid cell with his ethmoid knife," the roof is orientated, and "then follows the removal of the ethmoidal cells forward and backward or vice versa with forceps adapted in size to engage the cells which are even higher than the nasal roof"

Comment.—Reaves has given us not only a method but also the necessary instruments to accomplish our purpose He also brought out thoroughly the fact that the lining mucoperiosteal membrane should be protected and sufficient time taken to completely exenterate all cells possible of reaching by sight

YANKAUER'S OPERATION

Yankauer, in 1920, gave an encouraging outlook to the modern spheno-ethmoidal operation, and added several very valuable points to its technic The isolation of the posterior branch of the nasopalatine artery as it crosses the face of the sphenoid and by crushing, eliminating it as a complicating factor, is worthy of notice The use of iced physiologic sodium chlorid solution as a douche during the operation to check the oozing after the epinephrin has ceased to act, and

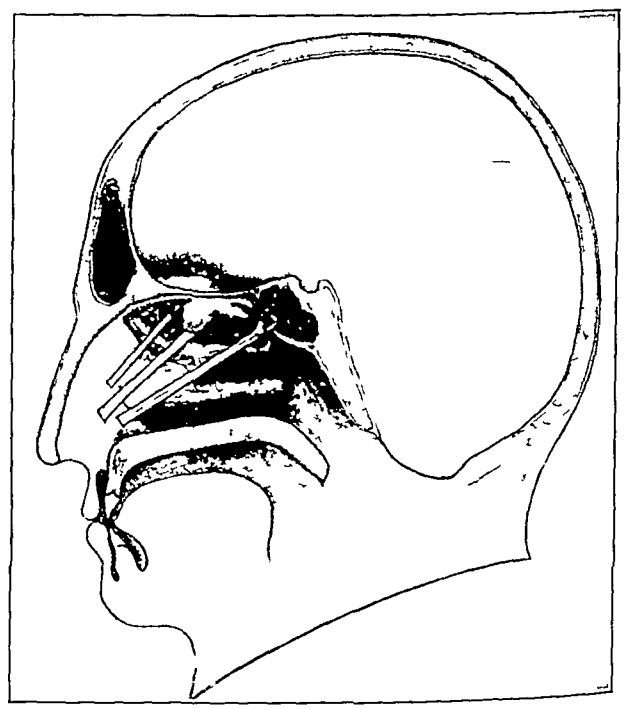

Fig 7.—Reaves operation use of the 15 degree angle ethmoidal forceps in removing the middle turbinate position of the sphenoidal punch while resecting the anterior wall of the sphenoid

the use of bone wax to plug the anterior ethmoidal artery when it is a source of hemorrhage, are worthy of praise Yankauer [3] thus describes a very sensible and thorough operation The middle turbinate is removed with a Holmes scissors and snare "The most prominent cell is attacked with forceps From this point the opening of the cells proceeds in a backward direction until all of the cells of the posterior group

6 Reaves Perry Ethmoidal Operation for Pansinusitis Tr Acad Ophth & Oto Laryngol 1919

and the sphenoid cell have been opened, their entire inner walls and the partitions which separate them being completely removed and all converted into one single cavity" The sphenoid is attacked early in the operation and its anterior wall resected, exposing any hidden posterior cell Yankauer localizes his roof by utilizing the upper limits of the sphenoid or the posterior ethmoidal cell 'The anterior cells are opened from behind forward, until the anterior limiting line has been reached which is the rounded border of the nasal process of the superior maxilla"

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DR T E CARMODY, Denver The one point we must keep in mind is that we are coming to recognize the value of controlling hemorrhage The nasal operations that we saw up to two or three years ago were bloody operations The control of hemorrhage as brought out by Yankauer and Shea is simple and will help a great deal I have found that an ordinary large sized eustachian catheter will answer the same purpose as the suction apparatus or Shea's instrument In some cases the middle turbinate can be left, but we ought to be careful about leaving it when there is marked enlargement in the middle turbinate because it will close the space and we shall be unable to take care of after-treatment as well

DR JOHN A CAVANAUGH Chicago It is a difficult proposition to make roentgenograms that show positively whether the sphenoid is a definite size unless one injects it I have injected these sphenoids with barium solution suspended in malted milk I was surprised at the variations these sinuses revealed The ethmoids on one side are always superimposed on the ethmoids of the opposite side, and it is difficult to separate them in the picture In the last year I have been cocainizing the nose and introducing small films into the nasal cavity between the middle turbinate and the septum placing markings on the anterior wall of the sphenoid and various points of the ethmoids and along the lower edge of the middle turbinate This work is not completed I hope that something will come of it Regarding the sphenoid operation, and the picture showing the removal of the anterior wall of the sphenoid some of you may have seen the burr I devised for removing this wall I have not been able to find biting forceps to take down this wall of the sphenoid completely But with my burr one can remove the entire wall and floor, which gives perfect drainage

DR EDWIN MCGINNIS, Chicago When Dr Mosher first brought out the anatomy of the ethmoid region with complete exenteration, curettage and cleaning up afterward with biting forceps, it seemed that we had reached very satisfactory results in operative surgery A year later Dr Shambaugh gave some data of exenteration which seemed to emphasize the result During the last year, however, I have had three or four patients who had had complete exenteration of the ethmoid and who had reinfection of the cells that remained If we could exenterate the sphenoid and antrum I think that exenteration of all the cells would be the ideal operation Of course it is impossible to eradicate the antrum—Killian used to obliterate the frontal, but it is impossible to eradicate the sphenoid One gets very enthusiastic about this thing because if one can clear up the olfactory region in the narrow space between the middle turbinate and the turbinal plate, very often these patients will recover A high septum operation will clear it up in many cases Many of the patients do not do well Study of the ethmoid region will reveal that the middle turbinate divides the two groups of cells, anterior and posterior and the posterior cells are larger and have larger openings But it is hard to examine these posterior cells the anterior group are easy to observe I proposed a drainage operation two or three years ago I made an incision into the anterior ethmoid cells up to the frontal sinus extending this through the posterior cells and back to the anterior wall of the sphenoid Dr Yerger gave the statistics in regard to infection of the sphenoid at the county hospital in the cases that came to postmortem The sphenoidal sinus was the least infected of all of the nasal accessory sinuses If one drainage operation does not do any good one can do another, and, if the second drainage operation does not give results, one can then exenterate For two years I have not disturbed the middle turbinate and have not exenterated the ethmoid labyrinth, and the patients do just as well as those who have had exenteration of the ethmoid

DR FRED J PRATT, Minneapolis I want to protest against removing the middle turbinate The middle turbinate is a good thing to have as a guide during an ethmoid operation The openings in the cribriform plate are between the middle turbinate and the septum, and if one removes the turbinate one opens an avenue for infection into the brain which can be avoided if one keeps the middle turbinate and works under it Speaking of cleaning out the ethmoid every one knows that there are accessory cells Often we cannot find these the first time The only thing to do, after exenterating the ethmoid if the case does not clear up, is to go back and find out where the trouble is The doctor spoke about not being able to keep the space open under the turbinate if it is left in place Granulations form even if one removes the turbinate, and if the turbinate is left, all that is necessary to do is to follow around the opening and bite off the granulations One can do this just as well by leaving the turbinate as by removing it Another thing tending to prove that the middle turbinate is of some use is that one will find in cases in which the turbinate was removed years before that Nature has put soft hypertrophies on the lateral wall and septum trying to narrow the space I think that this is proof that the middle turbinate is of some use

DR JOHN J SHEA Memphis Tenn It requires from six to twelve months to obtain permanent results after an exenteration of the ethmoids in many of the cases and during this period the patients should be treated carefully Unless the sight is at stake an ethmoidal case should be treated a month or two before operating, unless gross pathologic conditions are present The discharge will change its character after the cells have been exenterated, but will not cease entirely If the discharge remains purulent, scabs will be formed, but the cases are not troubled by dryness as one would expect A method of outlining the sphenoid of one side when inspection fails to be satisfactory, is to insert the Holmes nasopharyngoscope into the other sphenoidal cavity

and transilluminate the questionable cavity The paper did not deal with the indications for the operations Dr Carmody spoke of the eustachian catheter as a suction instrument The one I improved is the outgrowth of using first a catheter and then glass drinking tubes The latter are the more serviceable

A CONSIDERATION OF ACUTE AURAL DISEASE IN CHILDREN *

A SPENCER KAUFMAN, M D
PHILADELPHIA

Acute infections of the middle ear are met with at all times, but from December to April of each year they are exceedingly numerous, and as surely as they appear in succeeding years they vary in symptomatology and severity In the past season, for instance, the number of cases of acute otitis media was greater than usual, and the severity of the symptoms was out of proportion to the morbidity of the disease

It is indeed surprising how seldom aural examinations are practiced routinely, and it is well to emphasize at the beginning that, when such an examination is made and reveals trouble, and the proper methods of treatment are instituted, we have not only treated the existing condition, but have also applied prophylaxis against permanent loss of function and the dangerous intracranial complications

ETIOLOGY

Considering the causative factors, we find the most common source of acute middle ear inflammation in local infection of the nose and throat, as well as in the general infections in which nose and throat involvement is more or less constant We have but to remember that the mucous membrane lining the nose and throat continues up the eustachian tube, lines the middle ear cavity, attic and mastoid antrum, and forms the internal layer of the tympanic membrane, to realize with what ease infections involving the nasopharynx may, in turn, infect the ear Influenza, measles and pneumonia are the most important general infections, but all of the other exanthemas and acute infectious diseases play important parts In this class of cases, a routine inspection of the ears should be made, as one would examine the chest and abdomen for evidence of new developments Local causes are the infections confined to the upper respiratory tract, such as acute rhinitis and obstructive conditions Anything that interferes with the proper ventilation of the nasopharynx and eustachian tubes is a direct or indirect causative factor Adenoids, by their direct blockage, and hypertrophied tonsils, by the upward pressure exerted on the tubes, are, of course, the most common factors The removal of diseased tonsils and adenoids is the best prophylactic measure at our command in the prevention of aural involvement This is true not only in the acute form but also in the chronic suppurative and nonsuppurative

It must be borne in mind, however, that, while the susceptibility to infectious processes is materially reduced by this operation, the possibility of their occurrence still exists when we have an acute nasopharyngitis, either primary or secondary The vicious habit of teaching children to blow their noses by holding one or both nostrils tightly closed and applying expulsive force should be discouraged as dangerous to the ear Chronic general diseases, such as tuberculosis, syphilis, scurvy, diabetes and nephritis, are often underlying conditions, but, except in the case of tuberculosis, in which we recognize a distinct type of otitis, middle ear involvement is probably due to lowered resistance, rather than to a distinct local manifestation We all must agree that purulent otitis media occurs too frequently during dentition in infants to be a mere coincidence The probable explanation is that, at the time of teething, there is general congestion of the entire mucous membrane of the nose and nasopharynx, causing a blockage of the tubes

PATHOLOGY

The pathology in a direct infection does not vary from that of a condition involving the mucous membrane of any other structure, but there is a distinct difference in that class of cases that might be called secondary infection By that, I mean those in which the eustachian tube is sealed off and the air in the tympanic cavity becomes absorbed With its gradual disappearance, there is an outpouring of mucus, and we then have a condition termed hydrops exvacuo If this fluid remains sterile, it will be gradually absorbed as the inflammation subsides and ventilation of the tympanic cavity is again established This will clear up with proper treatment applied to the nose and nasopharynx, but, if it is of longer duration, active surgical treatment, such as will be spoken of later, must be applied

SYMPTOMS AND TREATMENT

It is well to consider the symptomatology and treatment of the catarrhal and purulent otitis together, because, although we have a distinct disease in the acute catarrhal otitis media every case of the suppurative variety must pass through the catarrhal first No matter how brief this stage may be, it exists nevertheless and the symptoms that present themselves in the suppurative type are, with few additions, exaggerations of those that we find in the catarrhal

First and foremost is the development of pain, which is usually worse at night This varies from a slight discomfort to an exceedingly excruciating earache The ordinary "earache of childhood" is attended by pain which is very severe but of short duration, and little can be seen on examination except, possibly, some redness along the handle of the malleus or of Shrapnell's membrane Tenderness can also be elicited by pressure in front of the tragus and immediately below the lobe An important thing to remember is that, in the acute infectious diseases, there may be an absence of pain, and we often see, during the convalescence, that the temperature goes up for some unknown reason If the ear has not been examined it is not an infrequent occurrence to have a discharge from the external auditory canal as the first evidence of middle ear involvement Symptoms of impaired function, such as tinnitus, are rarely complained of even by older children, although the parents may notice a loss of hearing Fever is always present in the suppurative variety, but is usually absent in the catarrhal, when the etiologic factor is afebrile Two significant symptoms of acute ear disease in infants are the attempt to get the hand up to the side of the head affected and rolling of the head from side to side The latter symptom has been spoken of so much that an occasional diagnosis of ear disease is made without careful examination, and later it is found that this action is due to other causes

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Occasionally, actual convulsions, followed by coma, are seen in young children suffering from an acute middle ear condition This is caused by an irritation of the dura through a dehiscence in the roof of the attic, due to an open petrosquamosal fissure With the development of pus, the redness becomes intense, there is bulging of more or less of the entire membrane and an obliteration of all the landmarks, and it is exceedingly difficult to decide where the posterior wall of the bony canal ends and the tympanic membrane begins In a case that was originally sterile, as a hydrops exvacuo, and in which the fluid has become infected or present in such quantity as to cause bulging, we will see a rather faint yellow discoloration of the ear drum, with bulging in the posterior half I wish to emphasize this particular point, as, in a casual examination of the ear, this may possibly appear as a normal ear drum, when one has in mind the more usual picture, with the intense redness or dusky discoloration In this type of case, the cone of light also will often be present, which is likewise misleading Complicating some of the acute infectious diseases, particularly influenza, there are frequently formed hemorrhagic blebs, either on the membrane proper or on the adjacent wall of the canal A mere pricking of these blebs is frequently done, the operator feeling that he is incising the membrane, but procures no relief from the pain and other symptoms

By far the best treatment for acute catarrhal otitis media is rest Accompanying this, eliminative treatment should be given and, if the case is seen early enough, small doses of aconite, and powder of ipecac and opium (Dover's powder) in doses depending on the age of the patient Locally, heat, applied in one of several ways to the tympanic membrane, is by far the best means of relieving inflammation Hot irrigations with physiologic sodium chlorid solution, or just plain sterile water, every two or three hours, will give prompt relief The best method of administering these hot douches is to use an irrigating can with a small glass tip, having the can held not higher than the level of the patient's head when it is in position to receive the treatment This point should be made emphatic to the nurse or attendant The amount of solution used should be from 1 to 2 quarts (liters), and the temperature about 110 F The commonly used 10 per cent of phenol in glycerin is an admirable composition and accomplishes good in three ways (1) by the heat, as all such drops should be thoroughly warmed before instilling into the canal, (2) by the hydroscopic action of the glycerin, and (3) by the anesthetic and antiseptic effect of the phenol The ear should be protected from cold air at all times during an inflammatory process, and I usually advise wearing a light cap with a pad of cotton over the ears

In addition to the general treatment and that applied directly to the ear, we must not forget the source of infection—the nose and throat For this purpose, any of the several drugs that have an astringent action, sprayed or dropped into the anterior nares, will usually accomplish the desired effect My own preference is either a camphor-menthol solution in the strength of 3 grains each to the ounce of liquid petrolatum, or a mixture of cocain alkaloid, 2 grains, camphor, 1 grain, and 4 drops of oil of lavender or rose geranium to the ounce of liquid petrolatum Flushing of the nose, I feel, is liable to scatter the infection into the eustachian tube and the accessory sinuses, but, if the swelling of the mucous mebrane is reduced, the nose will usually take care of its own drainage In my observations, I have found that the colloidal silver preparations which are so commonly used in nasal conditions of this type are more of an irritant and will increase the flow of mucus, and the harm thus done outweighs any beneficial results gained from their antiseptic powers Postnasal irritation can be relieved by local application of the camphor-menthol solution It would be exceedingly advantageous when adenoids and hypertrophied tonsils are present to remove them, but, except in cases due to these causes alone, we must forego this procedure, as it is obviously impossible to operate during the course of an acute infectious disease or in the presence of a general involvement of the upper respiratory tract

When we find that we are dealing with a purulent otitis media or large collection of fluid in the middle ear, there is but one treatment and that is free incision I use the word incision in contradistinction to paracentesis, as a mere puncture will but drain for the time being and will later on probably have the same effect as a spontaneous rupture We must remember that a rupture of the ear drum is not a wound with even edges, and it is not caused by pressure, just as a toy balloon will burst when blown beyond its limit of elasticity, but, layer by layer, the membrane sloughs, and the result is a ragged-edged wound, which is more liable to remain a permanent perforation This operation is preferably performed under general anesthesia, but, unfortunately, many of these conditions arise in bedridden patients in whom the underlying causes contraindicate ether or chloroform (and nitrous oxid is not readily obtainable in private homes), so that we must use a local anesthetic or none at all The local anesthetic that I use is composed of equal parts of cocain, menthol and phenol, the solid drugs being rubbed together to form a syrupy liquid My experience is that the membrane can be incised with no more discomfort to the patient than is caused by introducing a local anesthetic The place to make the incision is over the point of greatest bulging, which is almost always in the posterior part This is also the correct position from the anatomic standpoint, as there is more room between the handle of the malleus and the tympanic ring, and the distance between the internal wall of the cavity and the tympanic membrane is greatest in this quadrant Furthermore, it will give a direct route for drainage from the mastoid antrum Incision should be carried to the floor and slightly curved Following incision, it is of great advantage to remove the secretions from the middle ear by means of a small suction apparatus

I have mentioned that this operation should be performed in all cases of acute suppurative otitis media and in cases in which there is bulging of the membrane from fluid in the middle ear, even though it be sterile, but there is still another important indication, namely, the more violent cases of acute catarrhal otitis media, arising during the course of acute infectious diseases Under these circumstances it is safe to incise the membrane without waiting for bulging, as we can be definitely certain that infection will occur and spontaneous rupture may take place in an incredibly short time

The after-treatment is of the utmost importance After the membrane has been incised, the ear is best left alone until the discharge becomes purulent or very profuse (which usually takes place in twenty-four hours), and then irrigations should be started For this purpose, I prefer a 1 5,000 solution of mercuric

chlorid, more for the purpose of insuring a sterile solution than for the antiseptic effect on the suppurative process The object of the irrigation is two-fold (1) it reduces inflammation by the application of heat, and (2) it keeps the canal clear so that the flow of secretion from the middle ear will not be impeded When the patient is visited by the physician, the canal should be thoroughly wiped dry and a 2 per cent silver nitrate solution applied to the membrane, particularly in the region of the orifice After the purulent stage has subsided and the discharge becomes mucoid, an astringent solution should be dropped into the ear after irrigation For this purpose, zinc sulphate, lead acetate or copper sulphate in 2 per cent aqueous solutions is very useful Here, again, the colloidal silver preparations are frequently used, but I have failed to see any beneficial results, and the staining of the tissues is often misleading to the eye The usual duration for discharge from the ear varies from a few days to four or six weeks, although in some cases it may keep up longer

COMPLICATIONS

In every case of middle ear infection, there is an involvement of the mastoid process This may be confined either to the mastoid antrum or diffused over the entire process It would be difficult to conceive of an infective process attacking the middle ear without extending by continuity of structure through the aditus ad antrum into the antrum Fortunately, the percentage of surgical involvement, i e, necrosis, is very small Two years ago, when the type of infection met was exceedingly virulent, of eighty cases of acute suppurative otitis media that came under my care during a period of two months, and which were seen from the onset and before spontaneous rupture of the membrane had occurred, but four required surgical treatment of the mastoid, so that I believe we can safely count on recovery in from 97 to 98 per cent of the cases without opening the mastoid, provided the patients receive the proper care from the beginning The mastoid tenderness that is almost always present during the early stage of acute suppurative otitis media can usually be promptly relieved by the application of cold, in the form of either a Leiter coil or an ice bag This treatment should be kept up continuously for from twenty-four to forty-eight hours If continued for a longer period it will accomplish nothing further but may mask other symptoms that might arise

When to operate and when to procrastinate are not always easy questions to decide Of course, when there is swelling, redness and tenderness over the process (the so-called classic symptoms of mastoiditis), indicating an erosion through the cortex, or when, with a profuse purulent discharge, there is a septic temperature after the first week that is not assignable to other conditions, then the indications for surgery are obvious The mastoids which do not present these symptoms, however, and yet demand surgical interference, are more usual than is ordinarily supposed It is not unusual to find an extradural or perisinus abscess at operation in a patient who has had neither tenderness nor rise of temperature, and who is apparently well except for the discharging ear Drooping or bulging of the superior and posterior wall of the bony canal adjacent to the tympanic membrane and the presence of discharge are sufficient indications for surgical intervention, regardless of the absence of other signs and symptoms The character and duration of the discharge must also be considered, as a persistent purulent otorrhea, which perhaps is not immediately dangerous to life, carries with it the possibility of becoming chronic and thereby destroying, to greater or less extent, the sense of hearing, and producing, at some future time, one of the dreaded intracranial complications If a case is at all doubtful, it is better to subject the child to post-auricular drainage, as we are fairly safe in counting on complete recovery in practically 100 per cent of the cases If the discharge is mucoid in character, without giving evidence of progressive destruction of the tympanic membrane, it can usually be cleared up (after the removal of adenoids and hypertrophied tonsils) by the administration of a mixed catarrhal vaccine I have had almost universal success with this line of treatment in this particular class of cases

The roentgen ray has become a strong factor in mastoid diagnosis When this work was first attempted, not much reliance could be placed on it, but with improved technic, and with careful comparison, by the roentgenologist and otologist, of the picture with the operative findings the value has been established, and many cases in which the findings are obscure can thus be correctly diagnosed The blood picture is of value when it shows a leukocytosis and increase in the polymorphonuclears, but should be ignored as a negative diagnostic point The explanation of this is easily found in the fact that the pus lies in a bony cavity from which there is little absorption until the lateral sinus or dura is exposed by erosion

Of the trinity of intracranial complications of suppurative middle ear disease, diffuse purulent meningitis is almost always fatal The majority of these cases can be prevented by a mastoid operation before such a condition arises There are, however, rapidly fulminating cases which nothing can stop, and in this class there is usually very little necrosis of the mastoid Brain abscess is a less common complication in the acute otorrhea, and here again prompt surgical intervention in a case of mastoiditis will usually prevent its appearance but when we do meet it, it is more amenable to treatment than meningitis Lateral sinus thrombosis is far more common in children than is generally supposed, and it is more difficult to diagnose in children than in adults The percentage of recoveries is fairly high if the condition is relieved by operation before other organs become involved or a general septicemia of a severe type manifests itself

CONCLUSIONS

1 Examination of the ear in children should be made routinely whether or not there are local evidences of involvement

2 The early recognition and proper treatment of acute suppurative otitis media will prevent the majority of cases of mastoid necrosis

3 Early surgical treatment of mastoid necrosis is the only means of preventing chronic otorrhea or the intracranial complications

Sixteenth and Spruce Streets

ABSTRACT OF DISCUSSION

DR WALTER E SIMMONDS Chicago I have found that there is danger in having any one other than the physician, or a nurse in whom I have the utmost confidence, irrigate the ear because the infection will spread in a tube which is more or less closed When there is moisture, try the dry treatment swabbing the ear with alcohol, and then instilling phenol

(carbolic acid) and glycerin It seems to work better Considerable experimental work has been done on the effect of draughts and cold on infected ears Dr J J Moore and I found that rabbits that were exposed to the electric light rays in a closed box under a proper regulated temperature controlled by a thermostat either did not develop lesions or had fewer or less severe lesions than those that were not so treated I found that children would readily get otitis media when exposed to drafts after colds or grippal infections I attended three families in succession in the same flat, which was cold and damp I had a child with acute otitis media and told the parents that I did not think we would get good results from treatment unless we removed the child to a hospital The child was taken to a hospital, and the first night the symptoms subsided the temperature went down and the pain disappeared After about ten days the child was returned to the flat and the next day there was a complete recurrence of pain and symptoms I apply heat to the part by using an electric bulb hot boric acid applications or a hot water bottle A hot salt bag is very useful Any one can apply the rays from an electric light bulb continuously to the region of the ear

DR OLIVER W HILL, Knoxville Tenn I would urge a routine examination of every child that comes under observation if it shows any sign of coryza or upper respiratory tract infection Many otologists are not certain as to when to interfere with an acutely infected ear and when to practice watchful waiting I should like to hear some one who has had experience explain how to determine, by the physical appearance of the ear, the type to interfere with and the type to let alone

DR HENRY DIETRICH, Los Angeles As to the time to interfere with ears, I do not believe that the physical appearance of the ear drum alone can determine that Another factor is that the virulence of the infection varies from year to year An ear which must be incised during one epidemic need not be incised during another During the epidemic two years ago, It was found advisable to incise almost every ear that showed any particular change and at that time complications on the part of the mastoid and sinuses were common This year our experience is quite different, that is, an ear drum which had the appearance of the ear drum of two years ago would heal under proper medical care

DR. CLIFFORD D SWEET, Oakland, Calif Too much emphasis cannot be placed on the routine examination of the child's ear It is important to impress on parents and general practitioners the importance of this as part of the general examination, and that there is no symptom on which you can depend to make the diagnosis I have seen the most virulent infection, with no sign from the child that would call attention to the ear One must be able to recognize the normal drum and also the appearance of the drum as the inflammatory process recedes or progresses With regard to the question as to whether to incise or to wait First, if there is any doubt, a skilfully done paracentesis can do no harm but it should be remembered that if the paracentesis is made too early before the process in the ear has progressed sufficiently, the incision will close up in from twenty-four to thirty-six hours only the upper part remaining open, and you will have to repeat the paracentesis Of course all of the clinical symptoms of the condition must be taken into consideration in deciding when to interfere and when not to interfere The question as to when to interfere in mastoid involvement requires more skilful team work than any other single point No ear discharges very long without involvement of the mastoid and I think that as soon as it can be definitely decided that the mastoid is involved, it should be interfered with surgically because of the serious consequences which may follow I was on the advisory board through which men passed in the draft, particularly from such communities as San Francisco Bay where the climate is damp and 4 per cent of the men were rejected because of chronic ear conditions We found that they had chronic ear disease which lighted up with colds It was apparent that these cases could have been cleared up by operations on the ear or tonsils and adenoids at the proper time

DR W MCKIM MARRIOTT St Louis I would like to draw attention to two points in the symptomatology of otitis media in infants One is that the otitis media may occur without any rise in temperature, even when there are definite signs of pus in the middle ear The only symptom noted may be a failure to gain in weight The second important symptom which may also occur, even in the absence of fever, is vomiting This symptom is often promptly relieved following paracentesis

DR S HERMAN LIPPITT, Milwaukee Something was said about the child's holding the hands to the ear or rolling the head from side to side in middle ear disease I have found those symptoms absolutely untrustworthy The only way to make a diagnosis is by the routine use of the electric otoscope I have found that following cases of tonsillitis and upper respiratory infections, many cases of otitis media developed one year and the next year, following the same types of infections, cases of pyelitis were numerous

DR A SPENCER KAUFMAN Philadelphia With regard to the indications for incision, there is one point to which I want to call attention, and that is, a retraction of the membrane with redness in an acute catarrhal otitis media is really a contraindication to incision, and when a membrane is incised too early, the slight hissing sound is caused by the air rushing into the vacuum that has been created by the sealing off of the tube I was glad to hear Dr Dietrich mention the varieties of infection one meets in different years This year it was not an uncommon thing to see a septic temperature (such as one would expect to find in a sinus thrombosis) accompanying a simple otitis media which cleared up without a surgical mastoid involvement The experience in examining the draft men very forcibly brings to our attention the necessity of the early care of these cases There is no excuse for a chronic discharging ear If the discharging persists, postauricular drainage will, in practically all cases, clear it up I think the class of cases that Dr Marriott referred to, the afebrile cases of otitis with discharge, usually comes during the period of dentition in infancy We all must recognize that infection of the middle ear comes too frequently during dentition to be a mere coincidence and very often the first symptom will be the evidence of discharge

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SEQUELAE OF EPIDEMIC (LETHARGIC) ENCEPHALITIS*

WILLIAM HOUSE, M D
PORTLAND ORE

Recent literature on epidemic encephalitis has been so extensive that any addition may be a bore Nevertheless, such a probability is here risked in the hope of presenting a reasonably simple working classification of the sequelae of that disease H G Wells, writing of the education of the middle part of the last century, recently said, "The test of a good style was its abundance of quotations, allusions and stereotyped expressions" With all deference to the extensively reviewed writing and opinions of others, the practice that Wells scorns will be avoided on the ground that the literature is readily available and that time limits will permit of few excerpts These remarks are based on an examination of 145 patients with epidemic encephalitis, ninety of whom were examined during acute and fifty-five during chronic stages of the disease or because of sequelae Many of the patients were examined at remote distances and under circumstances that prevented detailed records Accordingly, an exact statistical study will not be attempted nor is it essential for present purposes Be it sufficient that no case was included that seemed diagnostically doubtful, but, conversely, that to the list might be added a considerable

*Read before the Section on Nervous and Mental Diseases at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

number of cases insufficiently investigated which were probably due to epidemic encephalitis

Of the ninety acute cases, twenty-four are known to have been fatal, giving a known mortality of 26 per cent, with six or seven cases that may have terminated and probably did terminate fatally, so that it is quite likely that the total mortality was nearer 33 per cent The cases here discussed were taken from the remainder of these ninety cases plus the group of fifty-five cases seen during chronic stages or because of sequelae, which cases were themselves the residue of other groups whose mortality is unknown All of these cases occurred between late October, 1919, and January, 1922 The epidemic which furnished them moved in waves, the first lasting during October, November and December, 1919, with lesser waves in January and March, and complete subsidence by May, 1920 During this period, fifty-four acute cases were examined From October, 1920, to April 1921, there was an almost continuous series numbering thirty-six acute cases which were much less severe than those of the preceding winter, with a death rate little more than half as great

The succeeding remarks will be limited to the subject matter predicated by the title of the paper

COMPLETE RECOVERY

So many patients have been left with disagreeable sequelae that doubt has often been expressed as to whether any patient with epidemic encephalitis ever fully recovers Apparently many have been left little the worse as a result of this infection After deducting the fatal cases, probably one third of the patients are now well, though with rare exceptions convalescence was prolonged and he was indeed fortunate who, having suffered from encephalitis, was quite well at the end of a year, though many resumed work in from three to six months The remainder are still uncomfortable, many of them helpless, more in a condition of semi-invalidism which permits of some activities but robs life of much of its joy These unfortunates may be divided into four principal groups For descriptive purposes, the order of grouping is that of increasing ratio of interest rather than of numbers

FOUR GROUPS

Group 1 This group is least numerous, though not without interest, and is composed of those who in the acute stages exhibited myoclonus symptoms and who still suffer from muscular jerking and twitching, though in steadily decreasing severity There are but two pronounced cases in the nonfatal group, and in each, stabbing, lightning, neuritic pains characterized the early stages of the disease, and the patients still have considerable twitching but without pain They exhibit neurasthenic symptoms, have performed no continuous labor, and belong also in Group 3 They will not here be further discussed

Group 2 This is composed of those who exhibited definite psychoses The most common characteristics of these were suggestive of dementia praecox, with one paranoid case

Group 3 This is composed of those who showed symptoms suggestive of neurasthenia or psychoneurasthenia No attempt will here be offered to theorize on the pathologic reasons for the persistence of symptoms as between organic lesion, toxic condition, or pure psychopathy This is the largest of the four groups

Group 4 This group is composed of those who exhibited signs of gross organic lesion of the brain or cord It may be divided into three subgroups, the symptoms of which suggest

(*a*) A single unilateral brain lesion producing some such disorder as hemiparesis

(*b*) Lesions limited to the pons or medulla or both,, causing persistent oculomotor or bulbar disturbances

(*c*) Disseminated lesions, most classically revealed in the production of parkinsonian symptoms with many attendant and variable side effects

PSYCHOSES

Psychoses (Group 2) were, of course, present in a large number of the acute cases They persisted or developed as sequelae in not less than five cases, but had no pathognomonic characteristics The symptoms suggested that the patients were predisposed to mental disorders and that the psychoses were excited rather than caused by the infection Four of these patients were constitutional psychopathic inferiors, and in each the manifestations were typical of dementia praecox with plainly discernible hereditary elements

In one instance a child aged 6 years, had the daily habit of getting into a catatonic position late in the afternoon with his body curved forward his neck backward and his eyes directed upward as if toward some picture high in the air and maintaining this position continuously throughout the night until 7 or 8 o clock the next morning when he would go to sleep only to resume the strange position the following afternoon This he continued for about two months when he was first brought for study There was a definite history of encephalitis with double vision and other clinical concomitants four months preceding the psychosis, which was accompanied by partial speech inhibition, unwillingness to take food and other commonplace symptoms suggestive of catatonic dementia praecox The spinal fluid contained 8 cells per cubic millimeter with no other changes, and puncture was followed by temporary recovery with resumption of the catatonic position two months later Further track of him has been lost The mother of this child was a psychopathic inferior, and the father a nonentity

Three other cases of well defined dementia praecox type were noted, each following seemingly indisputable attacks of epidemic encephalitis In all of these cases there was good reason to believe that the psychosis was that of dementia praecox and that the encephalitis acted as an excitant of predisposed patients, just as war shock or other unusual experience acts on psychopathic personalities

The most disastrous psychosis occurred in a man, aged 59, who following a personally observed prolonged typical attack of epidemic encephalitis returned a year later At this time he suffered from typical paranoidal delusions of persecution with hallucinations of sight and hearing He believed that his wife was conspiring against him and that she was untrue to him He transferred his life insurance to other members of the family changed his will, made an unsuccessful attempt to kill his wife by shooting her and then committeed suicide Prior to his infection they had lived amicably but he had always been penurious in proportion to his wealth, peculiar in certain ways, and there was a strong suggestion that the encephalitis acted as an excitant rather than the entire cause of his psychosis

NEURASTHENIA AND PSYCHASTHENIA

The largest group (Group 3) was made up of those who became neurasthenic or psychasthenic or both The exact number so affected is not definitely ascertainable for, on the one hand, they departed from the normal so little and, on the other hand, shaded so gradually into the territory of the psychoses that it would be hard to say where neurasthenic and psychasthenic sequelae began or ended Almost constant sub-

normal blood pressure, anemia, vertigo, fatigability, deranged appetite, gaseous eructations, spinal weakness, tachycardia and palpitation, difficulty in mental concentration, poor memory, restlessness and insomnia (especially severe in two cases) form an unmistakable complex. Of interest in connection with the preceding double vision was the persistence of oculomotor asthenia, in some cases still present at the end of three and one-half years since the original infection. These patients uniformly complained of difficulty in reading, typified in the statement of one of them made three years after infection, who said 'I can use my eyes very well, but they do not want to work.' With ordinary test cards his vision was good, there was no difficulty in distinguishing words or letters but after reading a short time he wanted to quit, the type blurred, his eyes were fatigued, his mind would not concentrate and he soon gave up reading as an unpleasant and laborious task. Though previously a capable electrician, he is still unable to work except part time and on small, unimportant jobs. Most of the patients with this oculomotor fatigue dislike moving pictures, bright lights, undue exposure to light, and any labor which involves prolonged and concentrated thought or action. In a word, they are typical psychoneurasthenics with predominance of oculomotor symptoms. It is hard to escape the conviction that some of them were neurasthenics in advance of the affection. In fact, with several of the worst cases this is known to have been the case. In varying degree these neurasthenic symptoms remain in a large percentage of the entire group which forms the basis of this discussion. Many belonging to Group 3 should recover.

Fundus examination in many cases suggests certain changes which, owing to apologetically acknowledged lack of real expertness with the ophthalmoscope, may be imperfectly described, consisting of slight blurring and indistinctness of the outlines of the disks and of the retinal blood vessels, both veins and arteries. There was no case of true papillitis or papilledema or optic nerve atrophy, and such changes as persist are comparatively slight and might escape notice were one not looking for them. Pupillary inequalities and sluggish reactions, especially in the parkinsonian cases were common, and in at least three cases rigid pinpoint (Argyll Robertson?) pupils were noted.

ORGANIC LESIONS

Hemiparesis.—Two patients remain hemiparetic. One was distinctly hemiplegic for six months after which his gait and faulty hand position slowly improved. The leg is still slightly rigid, and the forearm and hand seek a somewhat flexed position across the lower part of the abdomen in a manner suggestive of hemiplegia. The minds of both these patients have lost their flexibility, and they meet with difficulty in creating new thoughts or new ideas, though both pursue their businesses reasonably well but without the vigor and enthusiasm of bygone days.

Pontile Symptoms.—Several patients still exhibit weakness of one or more ocular muscles accompanied by slight strabismus which they are able to overcome temporarily by an effort. One man has a rather complete ophthalmoplegia, with marked limitation of motion of the eyeball in all directions. A woman, one year after an attack of fever accompanied by double vision from which she recovered, suddenly without warning developed inability to raise her eyeballs above the horizontal level, that is, she has paresis of both superior rectus muscles. There is some ptosis, and her habitual attitude is one in which the eyeballs turn down as if she was reading a book in her lap. All of the patients with oculomotor palsies excepting the last one belong to the parkinsonian group, but this one has no other symptoms suggestive of that disorder. These oculomotor symptoms seem clearly to point to a chronic poliencephalitis superior.

Bulbar Symptoms.—Those who present sequelae suggesting lesions of the medulla were relatively few, probably because lesions of the medulla were usually fatal, except as medullary symptoms were present in certain of the parkinsonian cases. Three patients with typical parkinsonian symptoms periodically find difficulty in swallowing, and suffer from excessive salivary secretion and constant trembling about the lips and tongue which suggest incipient bulbar paralysis. Since there has been a steady advance in the symptoms of these over many months, there is justification for the fear that they will eventually die from involvement of the bulb.

Parkinsonian Cases.—Twelve patients with a marked parkinsonian syndrome remain, 10 per cent of the nonfatal group. At least four of the fatal cases were of the parkinsonian type, so that the total number of cases of this complex was approximately 11 per cent. In addition, some of those classified as neurasthenics showed slight blankness of expression, rigidity of movement and other mild parkinsonian symptoms, which have gradually diminished. The parkinsonian disorder was characterized by the early development of loss of expression, staring, unwinking eyes, muscle rigidity and gait difficulties, all of a type similar to the second stages of paralysis agitans but without the characteristic tremor. Three patients suffer from excessive and annoying salivary secretion. In addition to the more or less characteristic rigidities there was, on occasion, a tendency to the assumption of strange and unusual positions, in a sense not dissimilar from that already described in the child who appeared to suffer from catatonic dementia praecox. A man, aged 23, who is excessively rigid, has lain for many months face downward on a couch with his hands drawn forward under him in characteristic parkinsonian fashion. When erect, he finds difficulty in turning his body, moves slowly, and walks with a rigid gait. When left alone he resumes the prone position. His mind acts slowly but clearly, and his speech is hesitating.

It was early noticed that these patients lacked the characteristic tremor of agitans. Some tremor has been present in most of the cases, but with one exception has never been constant. It has sometimes appeared in one hand or one leg, sometimes has been under control and sometimes has suggested the intention type, but, in the main, when patients were under observation it has been absent, that is, controlled. An exceptional tremor occurred in a patient already described as suffering from ophthalmoplegia. This man suffers from continuous tremor involving his entire body, including his vocal cords, so that his voice has a bleating sound. The tremor lacks the characteristic pill rolling motion, and is much more rapid than agitans.

Parkinsonian symptoms appeared in patients from 21 to 65 years of age. In only one of this group were the characteristics typical of paralysis agitans. This was in a man, aged 65, who gave a clear-cut history of onset

with double vision, fever and lethargy, but was unable to tell when he first began to shake It seems reasonable to suspect that here was a patient with incipient paralysis agitans who also had the misfortune to contract epidemic encephalitis

A final curious result of complication of the parkinsonian sequelae occurred in a woman, aged 48, who now, nearly three years after the date of infection with typical epidemic encephalitis, is expressionless, rigid in gait, and has a blood picture of pernicious anemia

COMBINED AND ATYPICAL SEQUELAE

Though an attempt has been made to separate the different types of sequelae of epidemic encephalitis, it has not been easy to classify every patient, for the reason that some patients could be classified in two or even three groups Some of the neurasthenic patients had partial ophthalmoplegic disturbances A violently agitated patient, twice discussed suffered from parkinsonian syndrome, ophthalmoplegia and pronounced psychosis and muscular jerking, in fact, he might have been classified in any of the groups

Occasionally, patients have complained of atypical sequelae, such as neuritic pains which were not of sufficient frequency or distinctness to warrant separate classification No postencephalitic convulsions occurred There was apparently complete absence of visceral lesions as distinct sequelae, though in two cases, after the acute onset of the disease, glycosuria of marked degree was observed, and it is possible that search over the entire group might reveal other cases showing visceral lesions It is probable that in both these cases the glycosuria was due to irritation of the fourth ventricle, but it is not unreasonable to assume that, if long continued, such irritation might result in permanent changes in the glycogen-forming organs

306 Selling Building

ABSTRACT OF DISCUSSION

DR M A BLISS, St Louis Among the sequels of epidemic encephalitis as observed in St Louis the most striking thing we noted was the great similarity to the remissions and exacerbations of multiple sclerosis We have patients who improve so markedly that we think they are well on toward recovery, and then the symptoms recur That has happened in our experience many times

DR F E COULTER, Omaha We are very frequently asked Will these patients recover? How long are they going to be ill? Are they going to be as well as before they were attacked with this disease? Sufficient time has probably not yet elapsed to answer those questions accurately I was glad to hear the optimistic views expressed by Dr House My own experience has not been quite so optimistic, especially with those persons who have had this disease in early life I wish he would tell us concerning these results in children The cases in children seem to have resulted in the most havoc, for the greatest destruction to the mental and nervous apparatus is found in the children The longer the duration the more severe the condition has been, also, the longer the period of lethargy, the more serious has been the result so far as sequels are concerned, especially in connection with children

DR WALTER L TIMME, New York I believe that the death rate is not nearly so high as Dr House represents his to have been I think the reason for the high death rate reported by him is that a great many persons with the disease in a very mild form seldom come under the observation of the specialist or go to the hospital These cases are seen by no one at all, or by a family practitioner, who sees the patient for a day or two in a mild febrile state prescribes some therapeutic treatment and the patient recovers I am convinced that a great many cases of this kind escape us entirely, and hence our mortality statistics must be taken with that reservation Dr House mentioned the Argyll Robertson pupil I have never seen in these cases a true Argyll Robertson pupil It is a pupil which reacts perhaps not at all to light, or possibly very sluggishly, but is also accompanied by an accommodation spasm so that we have a definitely fixed pupil rather than one that reacts to light and not to accommodation Occasionally we see a case that shows the marked effect of the infection on the vegetative nervous system and the related organs In a certain number of cases these patients become very adipose as a result of the attack an increase in weight of 60 or 80 pounds in the course of six months being not at all uncommon Another type of case seen only seldom is one in which there is a bronzing of the entire body within four or six months after the attack of encephalitis The intense asthenia seen in true Addison's disease is also present

DR GEORGE A MOLEEN, Denver I do not think any disease has been fraught with so many difficulties particularly directed to the neurologist as epidemic encephalitis I am frank to confess that that has been my experience, and I have derived a great deal of consolation from the fact that both the French and the German journals are replete with instances of the same kind The widest divergence in syndromes is evident in these reports, in conformity with my own experience I was interested in the classification brought out by Walsh, in which he segregated the cases into two groups in accordance with the positive and negative classification of other conditions by Hughlings Jackson By the positive cases he referred to those which had active muscular contractions with the active mental symptoms the nystagmus and the irritative sensory disturbances, particularly pain The negative types included the anesthesias and paralyses with the associated atrophies the somnolence and lethargy and the pupillary or eye paralyses with them He stated that the prognosis was universally better in the paralytic types than in those which showed the muscular or mental activities, and that has been my experience Also in the active motor types the sequels are more likely to occur At the New Orleans session I related a case which had not terminated at that time The patient was admitted with a bulbar paralysis the inability to swallow, and paralysis of the tongue Atrophy of the tongue with sagging of the palatine pillars was followed by paralysis of the shoulder girdle and a poliomyelitic type paralysis of the lower extremities Recovery occurred in the same order and I remember mentioning that his ability to swallow recurred with the presentation of a dish of strawberries The man went on to complete recovery and not a single evidence of his condition remains This is only one case in conformity with Walsh's contention

DR W A JONES Minneapolis We see so many cases that resemble encephalitis that I think for a time we were inclined to diagnose almost every neuropsychiatric condition as encephalitis I distinctly regret that in one case I emphatically decided that a woman who had a few psychiatric symptoms had an encephalitis She was sent to the hospital, and within twenty-four hours developed a stuporous state that resembled the stupor of a lethargic encephalitis she wakened for her meals and was conscious of the activities of the nurse A puncture of the spinal canal revealed that she had a four plus Wassermann reaction Her stupor became intensified and she died in a week The necropsy revealed nothing in the way of an encephalitis Aside from her Wassermann reaction she had a large intraventricular tumor of the brain Previous to seeing this case I had a similar case in which there was the same attitude of somnolence without symptoms of encephalitis, and, singularly, the woman had a large brain tumor With this confusion of symptoms in the cases that we see now we should be reasonably careful in coming to a definite conclusion

DR LEO M CRAFTS Minneapolis One thing that has impressed me is the uncertain chronicity of this condition I do not think that we yet know how long the process may continue either directly or its sequels I have in mind a case of encephalitis in which there was a quite typical attack with paralysis of the left face and arm, with lethargy The patient apparently made a fair recovery but was not in really good condition The following winter he presented

the same clinical picture again and died I am now observing a young ex-service man who had an attack of influenza in the fall of 1918 and was never well afterward More than a year later he developed the active picture of epidemic encephalitis He gradually improved but has continued to show the parkinsonian picture since that time, without tremor, but with the boardlike expression and automatic movement He is now steadily retrograding I believe that he has a continued encephalitis, either a chronic process without the activity of a germ or with it The cases that have impressed me most have been those that resembled brain tumor In one case the condition began as a simple nervous prostration but gradually retrograded The patient continually spat, an unusual symptom Later he developed an active cephalalgia that did not yield at all to treatment He lost motion on the left side which symptom disappeared He developed double choked disk but this definitely receded after spinal puncture and one drainage, and did not recur In the light of experience with this case I think that this fact, together with the rapid qualitative change in the reflexes from normal to abnormal and back, are the best differential points between actual brain tumor and encephalitis In the case referred to, resembling brain tumor with cerebellar nystagmus and falling backward, a double decompression was done at the occipital level Microscopic examination of the brain revealed some of the characteristic signs of cell infiltration about the blood vessels, but nothing else I have seen one case simulating spinal cord tumor, beginning with a definite zone of pain in the lower back and only after several months developing delirium diplopia and the ordinary progress One of the many striking things is the almost unfailing marked elevation of temperature toward dissolution, usually going to 106 F or above

DR JULIUS GRINKER Chicago The question of tumor that may be diagnosed when there is an encephalitis, and, on the other hand, the diagnosis of encephalitis when there is a tumor, was strikingly brought out by a case of encephalitis with choked disk A colleague had a case with choked disk which he presented as a case of encephalitis, characterizing it as the second case of encephalitis with choked disk mine being the first—choked disk being a very unusual symptom of epidemic encephalitis My colleague's patient died and the condition proved to be a true tumor of the brain My patient exhibited choked disk and also showed symptoms which Dr Crafts referred to and form which he would have made a diagnosis of tumor, but the patient made a perfect recovery His was a true case of encephalitis This goes to show that we are likely to mistake organic disease of other types for encephalitis and vice versa An interesting point is this Recently I saw a number of sequels of encephalitis in cases which were never diagnosed as encephalitis at all These sequels were mostly in the form of postencephalitic rigidity and parkinsonian tremors I have seen many cases which exhibited this syndrome These cases occur with preference in young persons A young boy had what was undoubtedly an encephalitis lasting for six months, during which he was apathetic drowsy and in bed most of the time—the case was not diagnosed as encephalitis The condition began with ocular phenomena, a little fever and undoubtedly must have been encephalitis though I had no opportunity of seeing the case myself at that time This boy now presents the following complications, which some one called a genuine sequel of encephalitis Every alternate morning sometimes every morning the boy, after awaking would run about the room in a frenzy swear at his mother and jump at her Aside from these attacks, he was a very well behaved child This sequel was directly attributed to the encephalitis The diagnosis appeared doubtful to me The mother described his attacks as being accompanied by blanching at the lips with change in color of the face and the suggestion arose May this not be a form of epilepsy? I gave him phenobarbital (luminal) and he did not improve Finally after studying the case I found that at times he did not swear, especially when something harsh was said to him I then advised the mother to spank the boy every time he had an attack and he has not had any more The case was evidently a neurosis of the hysteria group

DR CHARLES R BALL, St Paul I remember the first time I saw one of those parkinsonian types of encephalitis It was at Base Hospital 9, at Chateroux in 1918 I was called in consultation to see a young soldier who was sitting up in bed with a perfectly masklike expression on his face, and a marked degree of muscular rigidity I was told that he had recently had a rather severe attack of influenza in which he had been delirious for a number of days I recognized immediately that here was something new in my experience, something entirely different than I had ever seen before A few weeks later at Base Hospital 214 at Savaney at one of our weekly clinical conferences, we were able to show seven cases of this type of encephalitis The literature has since been filled with a protean symptomatology of the various types of this disease which present definite somatic findings At present because of this extensive literature on this subject, when there are somatic symptoms the recognition of the nervous sequelae of this disease is not difficult But what about the other sequels, when there are no objective symptoms when the history of the attack is vague, and when we have to deal simply with changes in the personality, or with symptoms entirely referable to the vegetative nervous system? We are called on in such cases to explain strange and unfamiliar nervous and mental conditions which we have previously classified under hysteria and psychoneuroses We see undoubtedly many such cases among ex-service men, that at present because of our lack of understanding of these sequels we are classifying as shell shock It is in this type of postencephalitic sequel that our most difficult problems in nervous diagnosis are to be found at present

DR J C MICHAEL Minneapolis A case which interested me very much was that of a young man who had delirium for about three weeks He became quite markedly parkinsonian for a year and a half Then he suddenly developed acute symptoms again and died At necropsy the usual pathologic changes of epidemic encephalitis were presented

DR FRANK A ELY, Des Moines I wish to report one case treated by thyroid A girl, aged 17, became ill one year before I saw her She was a pitiable object unable to continue her work in high school a typical parkinsonian end-result As an empiric treatment I asked her physician to give her from 3 to 5 minims of 1 1 000 epinephrin solution hypodermically every other day and to administer small doses of thyroid beginning with 1 gram a day and increasing the dose to 5 grains Within sixty days this girl had regained her usual alert state her mentality improved she was able to go about and resume her studies, and recently, about six months after institution of the treatment, I received a report that she was apparently perfectly well I realize that one case means nothing it is simply a report for the sake of stimulating observations along that line I have had one other typical parkinsonian case in a service man who had peculiar respiratory phenomena in which he snorted all the time a peculiar forcible exhalation He was very much improved as long as we kept him on the thyroid and epinephrin As soon as the treatment was discontinued, his respiratory difficulty would return

DR. WILLIAM HOUSE, Portland Ore Dr Bliss refers to multiple sclerosis cases Dr Bassoe first called attention to the hope that in encephalitis we might find the etiology of paralysis agitans and multiple sclerosis I think that his hope has not been fulfilled The results of encephalitis do not appear to be typical of agitans or multiple sclerosis Dr Coulter speaks of my optimism in prognosis I pointed out the difference that existed in opinions, and think my prognoses not too optimistic I believe that the last group that I presented Group 4 will have no recoveries but that the neurasthenic and myoclonus cases will recover I saw very few children Most of the cases of encephalitis in children that I saw were fatal Answering Dr Timme's comment on the high death rate six of my first thirteen cases were fatal, but as the epidemic advanced the cases seemed less virulent in this respect corresponding to experiences with poliomyelitis in which the first epidemic was always much more severe than the recurrences of the following winter In the second series of cases of encephalitis there were many of the mild type described by Dr Timme patients with a temperature of about 101 or 102 F some delirium and a few days of double vision followed by lethargy and recovery In regard to the Argyll Robertson pupil I think that Dr Timme made a just

correction These pupils are not Argyll Robertson, they are simply contracted pupils in which responses to both light and distance are greatly diminished Dr Moleen speaks of nystagmus It seems to me that there is no true nystagmus in these cases The wavering motions that exist are due to muscle weakness and are a pseudonystagmus and not a true one As to prognosis in paralytic cases Mine were severe cases The patients have not done well, and all of them have some sequel Of the myoclonus patients, some have died and others have severe mental and physical sequels, except the two mentioned In regard to the difficulties in diagnosis I found some trouble in differentiating between brain tumor and encephalitis especially tuberculous meningitis and encephalitis In most cases it should be fairly easy to make an accurate diagnosis A final suggestion in connection with the association between encephalitis and various psychoses may be of interest Most of my patients were in poor health when they developed encephalitis They were subnormal, and, in view of my belief that the psychotic cases occurred in psychopaths, it seems to me that subnormal persons are more predisposed to the disease than normal persons

Clinical Notes, Suggestions, and New Instruments

DEAFNESS FROM PRESENCE OF INSECT IN EAR

PAUL A HICBEE M D MINNEAPOLIS

A man, aged 36 stumbled and fell, Feb 18, 1922, striking on his chin He was unconscious for a few seconds and, on recovering, experienced a sharp pain in his right ear After the chin wound was dressed he was referred to me for examination of the ear The external canal was blocked A large amount of debris was removed, disclosing tightly packed cerumen, which was removed with difficulty Following this came the remains of a dead cockroach, 18 mm in length and perfectly preserved in every detail

The patient in April, 1908, while preparing for a bath, felt a sudden pain and buzzing in the right ear, which drove him almost frantic While his wife was telephoning for a physician, he put his head under the water in the tub, and the pain soon ceased Later on the advice of his physician, the ear was syringed, but nothing was washed out of the ear, and it was supposed that the trouble was due to a small mite which had been lost in the washing The patient gradually became deaf in this ear, but never consulted a physician, believing that some irreparable damage had been done to the ear by the insect After removal of the insect and cleansing of the canal, hearing was fully normal, and the only evidence of injury was a slight abrasion of the drum

It seems probable that, following the original injury in 1908, the canal became gradually filled with wax, thus entombing the insect in an air-tight space and preserving it in toto for nearly fourteen years

221 Meyers Arcade

MODIFIED EINHORN THREAD TEST

EDWARD STEINFIELD M D PHILADELPHIA

The equivocal results in the use of Einhorn's thread test in the diagnosis of gastric ulcer and malignancy have been due in part to the difficulty in the recognition of the stains as blood Though other objections have been advanced from time to time by various observers, it has appeared that modifications tending to render the test more sensitive would be of material aid in increasing the usefulness of the procedure The outlining, by chemical methods, of the areas on the thread impregnated with blood, renders the identification of faint or doubtful blood stains less difficult A method utilizing this principle has been used recently, and the results are sufficiently encouraging to warrant its trial as a source of added information in suspected lesions of the stomach and duodenum The entire procedure is as follows

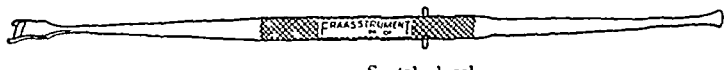
The patient abstains from meat on the day the test is done, or for a longer preceding interval if symptoms of pyloric obstruction are present A "pearl" button (from 7 to 8 mm in its greatest width) attached to a thread of braided silk is swallowed by the patient at 9 p m and washed down by a glass or two of water A knot at 75 cm marks the limit to which the thread is allowed to travel The next morning a mark is made at the part in contact with the teeth, and the thread and button are removed before any food has been given Successive strips of 10 cm each, starting from the external dental mark, are tested in a small porcelain dish with the benzidin and hydrogen peroxid mixture which is commonly used for occult blood tests Stains due to blood assume a green color, and the proximal stain counting from the mouth end, may be taken as the probable distance of a bleeding area However, it is not advisable to regard the calculation of this possible site as being positively established A sensitive benzidin is of value, and a hydrogen peroxid solution not containing acetanilid is preferable It is possible to make a preliminary trial, using a two or three hour interval only, in some cases this is sufficient to give enough blood impregnation to react definitely In case of doubt, however the longer time given above is the method of choice Oxidations of the benzidin due to the presence of oxydases have not been noted in this technic

2035 Chestnut Street

A NEW SEPTAL CHISEL*

CREIGHTON BARKER M D NEW HAVEN CONN

This instrument is designed for the removal of the base of the nasal septum and septal ridges It has been used by a number of rhinologists with gratifying results Essentially, the instrument is a Freer chisel to which tiny rounded knobs have been added to protect the sharp corners of the blade The advantage of this protection are clear—it is practically impossible to injure with it the overlying mucous membrane The projections at the sides of the blades also make it easier



Septal chisel

to hold the cutting edge against a narrow projection without slipping, and its use with the blade vertical, as in severing a spur, is facilitated thereby

66 Trumbull Street

A FILTERING ADAPTER FOR THE ADMINISTRATION OF NEO ARSPHENAMIN

JAY F SCHAMBERG M D PHILADELPHIA

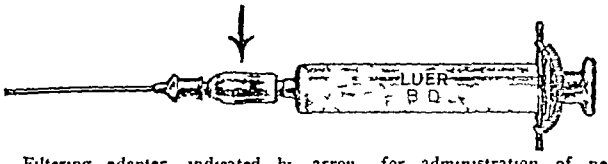
During the World War, the practice became common abroad of administering neo-arsphenamin in concentrated solutions in a small Luer syringe This practice has likewise been adopted by many physicians in this country It possesses the advantage of simplicity of administration and of time economy, factors which are important when large numbers of patients in clinics are treated

When concentrated solutions are used with a Luer syringe, and even when larger quantities of water are employed, it is quite possible for minute fragments of glass dust, dust in the water or undissolved particles of the drug to be carried through the needle Such particles, while not large enough to be readily visible to the eye, may still be of sufficient size to cause an embolism in the minute capillaries of the lungs or possibly other organs It is probable that the nitritoid and similar immediate reactions which follow the administrations of arsphenamin are due to embolic processes It is now common knowledge that solutions of neo-arsphenamin

* From the Ear Nose and Throat Service Grace Hospital

which are turbid or cloudy will produce immediate symptoms, characterized often by flushing followed by weakness and sometimes collapse It is known that acid solutions of arsphenamin produce emboli in the vessels of the lungs, a fact which may be definitely demonstrated in experimental animals The monosodium salt of arsphenamin injected in the strength of 0 4 gm in 20 c c of water has been followed by the development of embolic bronchopneumonia The use of the disodium salt which is produced by neutralizing with excess of alkali, appears to lessen the liability of embolism by reason of the fact that the blood serum is less likely to be precipitated in the presence of the increased amount of alkali These considerations lend some support to the thought that occasional nitritoid and immediate reactions after injections of neo arsphenamin may be due to the presence of unsuspected small particles of the character described, which might be readily removed by filtration

While some physicians filter solutions of neo-arsphenamin the practice is generally not carried out If it could be performed without any undue exposure of the neo-arsphenamin to contact with air and increased liability to oxidation, it would be an advantage The filtering adapter which has been made up for us by the Becton-Dickinson Company gives us an opportunity to secure filtration without increased exposure to air The adapter consists of a small glass tip about 30 mm in length which snugly fits the tip of the syringe Inside the lumen is placed a small pledget of absorbent cotton When the solution of neo-arsphenamin is poured into the barrel of the syringe, it is readily filtered by



Filtering adapter indicated by arrow for administration of neo arsphenamin

passing through this pledget of cotton After filtering in this way, if one removes the pledget of cotton and examines it with strong magnifying lenses, one may often note the presence of minute particles of solid material representing particulate matter of one kind or another which would otherwise have gone through the syringe from the needle into the vein One may readily insert the cotton and sterilize the tip in a sterilizer at the same time that the syringe is rendered sterile The filtering adapter likewise answers the purpose of a safety device, insuring the presence of the needle in the vein when injecting dark solutions of any kind for the solution remains in the syringe and the blood may be seen mounting through the filtering adapter

1922 Spruce Street

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER SECRETARY

EPINEPHRINE (See New and Nonofficial Remedies, 1922 p 108)

Epinephrin-G W C Co—A brand of epinephrine-N N R

Manufactured by the G W Carnrick Co New York No U S patent or trademark

Epinephrin G W C Co Vials containing epinephrin G W C Co (base) 1 grain

Epinephrin Chloride Solution G W C Co A solution containing epinephrine hydrochloride equivalent to 1 part of epinephrine in 1 000 parts of physiologic solution of sodium chloride and preserved with hydrochloric acid (equivalent to HCl, 0 02 per cent)

PITUITARY EXTRACT-LEDERLE (OBSTETRICAL)—An extract of the posterior lobe of the pituitary body of cattle approximately two and one-half times the strength of solution of hypophysis, U S P, preserved by the addition of chlorbutanol, 0 5 per cent It is standardized according to the method of G B Roth as modified by R. A Spaeth (Bull 115, U S Hygienic Laboratory)

Actions and Uses—See general article Pituitary Gland (New and Nonofficial Remedies, 1922, p 213)

Dosage—From 0 5 to 1 0 Cc (7 to 15 minims)

Lederle Antitoxin Laboratories New York No U S patent or trade mark

Ampules Pituitary Extract Lederle (Obstetrical) 0 5 Cc
Ampules Pituitary Extract Lederle (Obstetrical) 1 Cc

PITUITARY EXTRACT-LEDERLE (SURGICAL)—An extract of the posterior lobe of the pituitary body of cattle approximately five times the strength of solution of hypophysis U S P preserved by the addition of chorbutanol 0 5 per cent It is standardized by the method of G B Roth, as modified by R A Spaeth (Bull 115, U S Hygienic Laboratory)

Actions and Uses—See general article Pituitary Gland (New and Nonofficial Remedies 1922, p 213)

Dosage—Usually 1 Cc (15 minims)

Lederle Antitoxin Laboratories New York No U S patent or trade mark

Pituitary Extract Lederle (Surgical) 5 Cc vial

TYPHOID VACCINE (See New and Nonofficial Remedies 1922 p 310)

Parke Davis & Company Detroit

Typhoid Vaccine (Prophylactic)—Marketed in packages of three ampules (*Bio 427*) one containing 500 million and two 1 000 million killed bacteria each also in packages of three syringes (*Bio 426*) one containing 500 million and two 1 000 million killed bacteria each

GONOCOCCUS VACCINE (See New and Nonofficial Remedies, 1922 p 301)

Parke Davis & Company, Detroit

Gonococcus Vaccine—Marketed in packages of four 1 cubic centimeter bulbs (*Bio 271*) each containing 1 000 million killed bacteria in packages of four 1 cubic centimeter syringes (*Bio 273*) each containing 1 000 million killed bacteria also in 5 cubic centimeter (*Bio 274*) and 20 cubic centimeter (*Bio 275*) bulbs containing 1 000 million killed bacteria per cubic centimeter

STAPHYLOCOCCUS VACCINE (See New and Nonofficial Remedies 1922 p 306)

Parke Davis & Company Detroit

Furunculosis Vaccine—Marketed in packages of four 1 cubic centimeter bulbs (*Bio 255*) each containing 2 000 million killed *Staphylococcus aureus* obtained from furuncular lesions in four 1 cubic centimeter syringes (*Bio 257*) each containing 2 000 million killed staphylococci also in 5 cubic centimeter (*Bio 258*) and 20 cubic centimeter (*Bio 259*) bulbs each containing 2 000 million killed staphylococci per cubic centimeter

Staphylococcus Vaccine (Combined)—Marketed in packages of four 1 cubic centimeter bulbs (*Bio 376*) each containing 1 000 million killed *Staphylococcus albus* and 1 000 million killed *Staphylococcus aureus* in four 1 cubic centimeter syringes (*Bio 378*) each containing 1 000 million killed *Staphylococcus albus* and 1 000 million killed *Staphylococcus aureus* also in 5 cubic centimeter (*Bio 390*) and 20 cubic centimeter (*Bio 391*) bulbs each containing 1 000 million killed *Staphylococcus albus* and 1 000 million killed *Staphylococcus aureus* per cubic centimeter

VACCINE VIRUS (See New and Nonofficial Remedies, 1922 p 290)

Parke Davis & Company, Detroit

Vaccine Virus—Marketed in packages containing one capillary tube (*Bio 560*) for one vaccination with a rubber bulb for ejecting the vaccine and a needle for scarifying and in packages containing five capillary tubes (*Bio 561*) for five vaccinations with a rubber bulb for ejecting the vaccine and a needle for scarifying

ERYSIPELAS AND PRODIGIOSUS TOXINS (COLEY) (See New and Nonofficial Remedies 1922, p 316)

Parke Davis & Company Detroit

Erysipelas and Prodigiosus Toxins (Coley)—Marketed in packages containing five 1 cubic centimeter bulbs (*Bio 451*) and in 10 cubic centimeter bulbs (*Bio 455*)

First Practical Clinical Instruction—Prof C Fedeli of Pisa has found records which establish that an Italian physician named Da Monte opened at Padua in 1543 in the Franciscan Hospital a school for practical instruction in clinical medicine This, he says was the pioneer institution of the kind Boerhaave founded a similar one in Leiden in 1714 and Van Swieten at Vienna in 1745 Then came Prague 1781, Gottingen 1786, Jena, with Hufeland 1793, Edinburgh, 1741 Oxford, 1780 and Paris 1795

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SATURDAY, JULY 15, 1922

PURER FOODS AND DRUGS

Great reforms are seldom accomplished over night They are usually the outcome of a slow but unfailing evolution due to prolonged educational effort, sometimes coupled with the vigorous enforcement of new measures By reason of the gradual appearance of the changes brought about, evidence of actual reforms is often difficult to secure when it is sought at too frequent intervals This is likely to lead to discouragement at times, unless the searcher takes occasion to let longer periods of efforts at improvement pass in review so that the total accomplishment can more readily be envisaged

The foregoing comments apply in large measure to the history of the attempts to improve the situation with respect to the marketing of foods and drugs In this country the cumulative effect of national and state legislation, together with the propaganda of various agencies and the police powers exerted by the proper authorities, has not failed to manifest itself in the last decade The Food and Drugs Act, the 'net-weight package laws, and the now numerous local enactments directed to secure similar benefits have left their imprint in a better situation Nevertheless, in the counsel of perfection the doctrine of eternal vigilance still finds a place This is illustrated in the latest report of the chemical laboratory of the Connecticut Agricultural Experiment Station at New Haven,[1] to which reference has often been made in relation to pioneer work in the detection of adulteration and fraud in American food and drug products Thanks in considerable measure to the persistent effort of such laboratories, together with the Council on Pharmacy and Chemistry of the American Medical Association so-called diabetic foods especially recommended for a class of patients including, in this country alone, a million persons peculiarly susceptible to improprieties of diet no longer continue to be offered for sale in so many instances with utter disregard of the content of carbohydrates, which are supposed to be greatly reduced for the benefit of the sufferers Only a few years ago there were extremely few "honest" diabetic foods Today the number of reputable products with truthful claims is largely increased Yet Bailey's report[1] shows the sale of a "starchless breakfast food" containing more than 64 per cent of starch, not to mention the additional sugar content There are "glutenized" cereal products containing 50 per cent of starch and soluble sugars, yet recommended for diabetic patients Gluten products containing more than 65 per cent of available carbohydrate, and therefore no more suitable than ordinary wheat bread for the diabetic, are advertised still, but they have lost their former prominence in the face of an educated medical profession and a cautioned purchasing public

It is encouraging to note that out of nearly four hundred specimens of U S Pharmacopeia drugs examined by the Connecticut Station in 1921, only sixty-two were found adulterated, below standard or otherwise illegal Most frequently, derelictions were found in the case of bay rum, essence of peppermint and similar products, which have no great significance in therapy Even solution of calcium hydroxid, which so often has left the druggist's shelf as moderately pure water, having parted company with its content of lime during a prolonged sojourn there, is found to be up to standard with reasonable frequency

The situation is not ideal, by any means, but the curve of progress is showing an upward tendency

1 Bailey E M The Twenty Sixth Report on Food Products and the Fourteenth Report on Drug Products 1921 Bull 236 Conn Agric Exper Station January, 1922

ANHYDREMIA AND FEVER

The part played by water in the regulation of bodily heat and the equalization of temperature in the living organism is not as well appreciated as it deserves to be L J Henderson[1] has pointed out that water ranks high with respect to three qualities specific heat, heat of evaporation, and conductivity The first favors the storage of heat, the second permits of very rapid elimination when necessary, as when environmental temperature exceeds that of the body, the third allows rapid equalization of heat within the fixed tissues of the body, minimizing the possibility of injury from local overheating within or without

In this country, both Woodyatt and Barbour[2] have emphasized the part which the distribution of water in the body plays in relation to the phenomena of fever, which has been defined as "any condition of positive heat balance not due solely to food, exercise or environment" An increasing number of investigations in recent years are beginning to demonstrate that noticeable alterations in the water content, that is, the concentration of the blood, occur where they were formerly not suspected The untoward effects of

1 Henderson L J The Fitness of the Environment 1913

2 A review of the subject is given by Barbour H G The Heat Regulating Mechanism of the Body Physiol Rev 1 295 (April) 1921

such "anhydremia" have already been referred to in THE JOURNAL [3] Balcar, Sansum and Woodyatt [4] have demonstrated in a striking way how intravenous injections of strong glucose solutions may lead to high temperatures, which they attribute to the concentration of the blood, and the lack of water for giving off heat Anhydremia in children is attended with serious febrile symptoms, which Marriott [5] has clearly described In influenza, loss of fluid from the blood prognosticates a temperature rise and a change for the worse, which may often be averted by intravenous administration of fluids [6]

Facts seem to be accumulating rapidly to help establish these newer views on a firm experimental basis Water constitutes more than 70 per cent of protoplasm, the structural basis of organic life [7] Various drugs seem to modify the water balance, or at least the distribution of water in the body, and thereby affect the regulation of body temperature A new instance has been described lately by Barbour and Moise [8] in the case of the fever produced experimentally by injections of cocain The percentage of blood solids and the red blood cell count increase coincidently with the temperature The return of the temperature to normal is accompanied by dilution of the blood Antipyretic drugs also have been demonstrated in numerous instances to act in harmony with the ideas just outlined The problem of the water content of the blood is truly attaining a new significance in many fields of clinical medicine

RECENT FEATS OF MOUNTAINEERING

The latest news from the Mount Everest Expedition records an ascent by Capt Geoffrey Bruce and George Finch to an altitude of 27,200 feet At this point they were only 1,941 feet below the summit It is stated in the New York *Times* that the mountaineers just mentioned climbed only 400 feet higher than Mallory, Somewell and Norton did on May 21 without oxygen The latter group broke the record of the Duke of the Abruzzi made on Bride's Peak, which was 24,600 feet From a physiologic standpoint alone, these are stupendous personal feats The passive ascent by railway to the top of Pike's Peak at an altitude of only 14,110 feet is productive of noticeable physiologic reactions and, in some persons, of symptoms of respiratory distress Strauch,[9] who has received the experiences of early explorers with mountain sickness, calls attention to the fact that this malady befalls some persons at a lower, and others at a higher altitude, but that for all there is a critical line beyond which escape is impossible In some it may occur at 10,000 feet, while only a very few can venture to 19,000 feet without the experience [10]

The usual explanation of the exchange and distribution of the respiratory gases in the lungs and tissues has involved the view that the gases diffuse from regions of high tension to those of lower tension, and that the membranes interposed are entirely passive in the process This purely physical hypothesis has not passed entirely unchallenged The apparent adaptation of many persons to life under conditions of oxygen tension seemingly too low for the normal functions has long attracted attention and led to speculation Haldane of Oxford has been the foremost scientist to express the belief that an essential factor in acclimatization to altitude consists in a secretory activity for oxygen on the part of the lungs Obviously, if diffusion is the sole force in the interchange, the oxygen pressure in the arterial blood cannot exceed that in the alveolar air

The Anglo-American Pike's Peak Expedition [11] of 1913, however, reported oxygen tensions in the arterial blood greater by from 7 to 44 mm than in the alveolar air This seemed like clear-cut evidence for active oxygen secretion by the lungs into the blood The technic of this work has been assailed Schneider has pointed out that the Scandinavian physiologist Dr Marie Krogh [12] in 1915 established a new diffusion coefficient for the passage of oxygen through a membrane and showed that, *if the figures were correct, it* was possible for diffusion to account for the passage of a sufficient amount of oxygen to supply the body needs up to such altitudes as 24,000 feet

The proponents of the secretory theory have assumed that although the capacity for oxygen may always exist it is called forth only during extreme oxygen lack C W and C H Greene [13] have given it a rigorous test by studying the arterial blood in animals under conditions of breathing air at a greatly reduced oxygen tension The lowest inspired oxygen in one experiment corresponded to an equivalent altitude of 53,000 feet or 10 miles No evidence was secured in any case to indicate the presence of a higher oxygen tension in the arterial blood than was present in the alveolar air When alveolar air was exposed to a simultaneous sample of arterial blood, oxygen was absorbed by the blood Hence Greene concludes that the current conception of a purely physical mechanism regulating the

3 Diarrhea and Anhydremia in Infancy editorial J A M A 76 794 (March 19) 1921

4 Balcar J O Sansum W D and Woodyatt R T Fever and Water Reserve of the Body Arch Int Med 24 116 (July) 1919

5 Marriott W M *Some Phases of the Pathology of Nutrition in Infancy* the Harvey Lectures for 1919 1920 Philadelphia J B Lippincott Company p 121

6 Underhill F P and Ringer Michael Blood Concentration Changes in Influenza J A M A 75 1531 (Dec 4) 1920

7 Rowntree L G The Water Balance of the Body Physiol Rev 2 116 (Jan) 1922

8 Barbour H G and Moise M D The Mechanism of Cocaine Fever J Pharmacol & Exper Therap 19 270 (April) 1922

9 Strauch A Am J M Sc 142 105 1911

10 Schneider E C Physiological Effects of Altitude Physiol Rev 1 635 (Oct) 1921

11 Douglas C G Haldane J S Henderson Yandell and Schneider E C Phil Tr Roy Soc London Series B 203 271 1913

12 Krogh Marie J Physiol 49 271 1915

13 Greene C W and Greene C H The Partial Pressure of Oxygen in the Blood During Progressively Induced Anoxemia J Biol Chem 52 137 (May) 1922

passage of oxygen through the pulmonary epithelium is confirmed for all stages of anoxemia These now available experimental facts make the performance at Mount Everest all the more remarkable In the absence of "secretory" aids, the supreme importance of a state of high circulatory and respiratory efficiency in order to secure the maximal degree of saturation of arterial blood with oxygen becomes emphasized more than ever for the balloonist, the aviator and the mountaineer

Current Comment

THE ALLEGED INSUSCEPTIBILITY TO INTOXICATION BY POISON IVY

With the advent of the season when rhus dermatitis, following contact with poison ivy, becomes common, a recrudescence of the myths regarding the effects of this plant is certain to ensue The failure of many persons to exhibit symptoms following apparent exposure to toxic species of rhus has presumably been responsible for the widespread belief that some individuals are not susceptible to the poison An investigation by Brown [1] in the Department of Pharmacology at the University of Minnesota justifies the conclusion that there is probably a personal variability in susceptibility depending on temperature, condition of the skin, and many other factors which are not yet understood, [2] but he is also convinced that there is no conclusive evidence of such a state in man as entire insusceptibility to the poison Contrary to the theory of 'desensitization" by internal administration of tincture of rhus, it appears that the susceptibility may be increased with successive intoxications

ROENTGEN-RAY INTOXICATION FROM INJURY TO INTESTINAL EPITHELIUM

Nausea, vomiting, weakness and diarrhea, frequently observed in patients after exposure to large doses of hard roentgen rays, have been ascribed to the action of the rays on the blood and blood-forming organs, because leukopenia, marrow changes and destruction of lymphoid tissue often follow roentgenization Others have thought, however, that the constitutional reaction results from damage to the kidneys, especially since Warthin [3] described changes in the kidneys of patients treated with roentgen rays Recently Warren and Whipple [4] have reported the results of experiments on dogs which indicate that systemic intoxication may be due primarily to injury of the epithelium of the small intestine They found that a unit dose (350 milliampere minutes), given over the thorax with the abdomen shielded, caused no disturbances in the dog, while a subsequent exposure to the same unit dose, in the same animal, over the abdomen, caused a fatal intoxication in four days The time of the appearance of the symptoms of the intoxication coincided with the cell disintegration, becoming pronounced in the second twenty-four hours The changes, which affected chiefly the small intestine, were varying stages of necrosis of the epithelium covering the villi and lining the crypts Only a slight inflammatory reaction was present, and there was little injury to the lymph follicles and Peyer's patches Warren and Whipple believe that the absence of symptoms after thoracic exposure indicates that the blood and bone marrow cells are not primarily concerned in the intoxication because a greater number of these cells are subject to exposure in the thoracic region than in the abdominal In other experiments, McQuarrie and Whipple [5] found that large doses of roentgen rays over the renal region of dogs did not cause any changes in the kidneys or any appreciable disturbances of renal function These experiments on dogs reveal the intestinal epithelium as vulnerable to roentgen rays with resulting intoxication, and the probability is that the epithelium of the small intestine in man may be vulnerable in somewhat the same way In order to avoid harm, these facts should be borne in mind, when roentgen therapy is being administered

DOES THE BLOOD CONTAIN CREATININ?

To this question, the student of physiologic chemistry has been taught to give an affirmative reply The occurrence of creatinin as a normal constituent of the urine is well known, the isolation of the compound being a routine procedure in many laboratories Whence should this demonstrated urinary creatinin come if not from the blood brought to the kidneys? And have not the blood analysts instructed and entertained us with numerous accounts of the variations of the creatinin content of the blood in health and disease, pointing out the diagnostic or prognostic significance of undue concentrations of this nitrogenous product? Strangely enough, biochemists seem to have been content for the most part to accept color reactions in blood filtrates as proof for the actual existence of creatinin in the blood, despite numerous anomalies and discrepancies that have arisen to perplex the analysts It has remained, however, for Behre and Benedict,[6] of Cornell University Medical College, boldly to question the current teachings They are convinced, from analytic evidence which is impressive, that creatinin does not exist in detectable quantities in blood This conclusion seems somewhat revolutionary, though it helps to bring greater clarity to a much confused subject The blood does contain creatin which Behre and Benedict have actually identified by direct methods of examination Moreover, the creatin content increases in the blood when the renal functions are held in abeyance Creatin in abundance is always found in muscle tissue We may therefore assume

1 Brown E D Experiments on the Variability in Susceptibility to Poison Ivy Arch Dermat & Syph 5 714 (June) 1922
2 McNair J B Susceptibility to Dermatitis from Rhus Diversiloba Arch Dermat & Syph 3 625 (May) 1921
3 Warthin A S The Changes Produced in Kidneys by Irradiation Am J M Sc 133 736 1907
4 Warren S L and Whipple G H Roentgen Ray Intoxication J Exper Med 35 187 (Feb) 1922
5 McQuarrie Irvine and Whipple G H A Study of Renal Function in Roentgen Intoxication J Exper Med 35 227 (Feb) 1922
6 Behre J A and Benedict S R Studies in Creatine and Creatinine Metabolism IV On the Question of the Occurrence of Creatinine and Creatine in Blood J Biol Chem 52 11 (May) 1922

for the present that the creatin in the blood represents a waste product discharged into the circulation and awaiting excretion by the kidneys, which convert it into creatinin in the process of elimination The new view "fits the known facts" It explains the increase in blood creatin content when the kidney activities are impaired It renders conceivable that creatin may occasionally escape unchanged into the urine, as has so often been asserted We venture to believe that a new chapter in the solution of the difficult problem of creatin-creatinin metabolism has at length been opened

THE HIGHER EDUCATION OF CHIROPRACTORS

What is your favorite light literature? Detective stories? Mystery stories? Humor? Have you ever read the publications issued by the various species and subspecies of the chiropractic cult—for there is, as you know, a lack of unanimity among the chiropractors One particularly choice piece of contemporary journalism is issued by a chiropractor factory in Fort Wayne, Indiana Its July, 1922, issue makes good hot weather reading The editor discusses a "model bill," recently drawn up by those chiropractors of Indiana who belong to a different subspecies from those represented by the publication in question This Fort Wayne journal views the bill with disfavor It says, with refreshing naïvete

To begin with there is absolutely no need of a Chiropractic licensing and examining board in Indiana today The existing lot of Chiropractors in Indiana cannot be improved upon You are not being persecuted or prosecuted, you are left severely and strictly alone to practice your profession without let or hindrance from any source or any group of any kind In fact, Indiana today is the best Chiropractic state in the entire country Chiropractic conditions are as near ideal as it is humanly possible to approach that condition

But the fact that Indiana is the home of the free, chiropractically speaking, is not the only objection this journal has to the proposed bill It seems that the bill would require applicants for chiropractic examinations to submit satisfactory proof of the possession of a preliminary education, equal to that of a high school Perish the thought! As the editor says

How many Chiropractors in Indiana today could qualify under that rule? Of all the Chiropractors in Fort Wayne I do not happen to know of ONE that is a high school graduate In fact, I believe that the total number in Indiana able to comply with that ruling would be less than two per cent of all the Chiropractors in the state

From the point of view of the owner of a chiropractic "college" the sentiments just quoted are eminently logical It would be entirely unfair to chiropractic schools to insist on matriculants being educated human beings What educated human being would ever attend a chiropractic school? Of course, from the point of view of public interest—but that's another story

Insanity in London—The total number of insane patients in London reported January 1 was 18 349 (7,423 males and 10,926 females), as compared with 17,916 on Jan 1, 1921

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS, EDUCATION PUBLIC HEALTH ETC)

ALABAMA

Health Board to Use Ex-Service Men—In the fight against malaria and typhoid in Alabama the state board of health is planning to use former service men who are entitled to vocational training and desire to learn sanitary engineering work These men will be placed in charge of the work of drainage clearing mosquito breeding places, and other activities Arrangements have been made with the U S Veterans' Bureau for training a limited number of ex-service men for this work

ARKANSAS

Hospital News—Bids have been opened for the construction of the new St Edward's Infirmary, Fort Smith——A hospital will be erected at Conway at a cost of $50 000——The St Bernard Hospital annex, Jonesboro has been torn down and a brick structure will be erected to replace the frame annex

CALIFORNIA

Physicians Mobilize to Aid Veterans—Six thousand physicians of the state with 300 first-class hospitals at their disposal mobilized, June 29 to aid the disabled war veterans of California in conjunction with the California State Medical Association and the League for the Conservation of Public Health These physicians have offered their services to the soldier organizations and welfare bodies, and have recommended a new system of medical treatment for disabled soldiers that will be put into operation at once It will furnish every wounded veteran in the state with the highest class of medical aid and hospital treatment and will guarantee individual attention and care It is the plan of the physicians to mobilize those affiliated with the two organizations into groups in every community in the state, first for the care of ambulatory sick Any wounded soldier will be privileged to call on any physician in his community affiliated with the mobilization movement, and ask for service If the individual case cannot be cared for by the physician called on the case will be transferred to a diagnostic and clearing house hospital The third division of the system will be devoted to the therapeutic hospitals for the treatment of chronic troubles, such as neuropsychiatric cases and tuberculosis These hospitals have already been established and will be manned by officers of the U S Veterans' Bureau the California physicians furnishing consulting staffs and assisting in the organization and management of the hospitals For those patients who cannot be aided by the three means outlined and who would be classed as hopeless chronic invalids, the final resort will be care for the rest of their lives in comfortable invalid homes for incurable disabled veterans Dr A E Musgrave secretary of the state medical association, officially offered the plan for the physicians at a luncheon called by C J Sullivan secretary of the League for the Conservation of Public Health, June 28 in San Francisco Col Charles R Forbes, director of the U S Veterans Bureau accepted the offer of mobilization of the physicians for himself and President Harding The offer was also officially accepted by Commander Marx in behalf of the Disabled American Veterans of the World War and by State Commander Quinn of the California division of the American Legion

COLORADO

Hospital Dedication—With delegations from many states, the Jewish Consumptives' Relief Society dedicated the new $500 000 building of the sanatorium of the Jewish Consumptives Relief Society at Edgewater, July 9 This new structure was erected where the central building of the sanatorium was destroyed by fire several years ago Dr I D Bronfin is superintendent of the institution

Denver Tuberculosis Society—Under the auspices of the society, a long desired outdoor school has been established, in Denver The school board voted for the school with the understanding that the tuberculosis society should furnish any extraordinary equipment and direct the extracurriculum side of the undertaking Provision is made for measuring

all children in the grade schools of the city and in arranging for the serving of milk to children who are underweight. The Modern Health Crusade has been extended, and, in September, the school board has agreed to bear half the expense of the crusade in the schools.

CONNECTICUT

Epidemic of Typhoid.—Thirty cases of typhoid fever are reported from New Haven and several from New Britain. The health department has issued a warning against eating raw clams and has offered inoculation to those desiring it.

DISTRICT OF COLUMBIA

Personal.—Dr. Thomas Hugh Scott, U. S. Public Health Service, Washington, who recently announced his retirement from the race for Republican candidate for governor of Oklahoma, has accepted the appointment of medical adviser to the U. S. Veterans' Bureau.

Cancer Committee Appointed.—At a meeting of the District of Columbia Medical Society, July 1, a cancer committee was appointed to act with the local committee of the American Society for the Control of Cancer, which is to conduct an educational campaign in Washington during the summer, ending with "Cancer Week," throughout the country, in November. Dr. Edwin A. Merritt was named chairman, the other members being Dr. Albert L. Stavely, Dr. Thomas A. Groover, Dr. Edward M. Parker and Health Officer William C. Fowler.

FLORIDA

Medical Meeting Held on Ship.—The Florida Railway Surgeons Association held their third annual meeting on board the S. S. *Cuba* while en route to Havana for the annual meeting of the Florida Medical Association. The session was held under the presidency of Dr. James H. Pittman, Jacksonville.

GEORGIA

Children's Code Commission.—An act to create the Georgia Children's Code Commission will be presented to the next session of the Georgia legislature, also to provide for the appointment of ten members to the commission who shall be selected by the governor of Georgia. Section 2, reads:

> That it shall be the duty of said Georgia Children's Code commission to study the existing laws of Georgia which in any way affect child life; to study conditions of child welfare in the state; to study the laws of other states and to consult authorities in this and other states and to draft for presentation to the succeeding legislature such laws or amendment to the existing laws as will better afeguard the welfare of children in this state.

The commission, whose members will hold their term of office for five years, shall consist of one superior court judge, one member of the house of representatives, one state senator, and a member or representative from each of the following organizations: Federation of Women's Clubs, League of Women Voters, State Council of Social Agencies, state board of health, state board of public welfare, state federation of labor and the state department of education. The members of the commission will receive no salary or remuneration for their services.

ILLINOIS

Free School Clinics.—Drs. Elizabeth B. Ball and Elmer M. Thomas, of the state department of health, held a series of clinics in the Kane County schools, June 12-27. These clinics were held daily and were free to the public.

Chicago

Chicago Physician to Aid Russians.—Dr. George B. Hassin, neuropathologist and professor in the University of Illinois Medical College, left July 1, for New York, and will sail soon for Russia to aid in relief work of the American Medical Aid Society. Dr. Hassin formerly practiced in Siberia.

INDIANA

Hospital News.—Bids have been let for the new Adams County Hospital to be erected at Berne.——The cornerstone of the children's building at the state sanatorium, Parks Lodge, was recently laid.——The new sanatorium at Dillsboro was formally opened, June 24. The new building was erected at a cost of $200,000, and has 120 rooms fitted with modern conveniences.

Riley Hospital for Children.—This week ground will be broken on the first unit of the James Whitcomb Riley Hospital for Children, which is to be erected on a site between the Robert W. Long Hospital and the City Hospital. Arrangements have been made for the purchase of the ground lying between these institutions, so that all of the buildings in the hospital group will be joined, and the intervening space will be available for use as a convalescent park. In the first unit, provision will be made for the care and treatment of one hundred bedridden children and the first building, when completed and equipped, will represent an expenditure of $500,000. Credit for the initiation of this plan is given to Dr. Lafayette Page, president of the Indianapolis Medical Society, who first called a committee to outline a campaign in 1917. The entire project will cost approximately $2,000,000, the money to be raised through popular subscriptions conducted throughout the state. When completed the hospital will have facilities for the care and treatment of 350 children. According to the plan, the hospital will be maintained by the state, and children from any county, legally resident of the state may be admitted for treatment by the judge of any circuit, juvenile or criminal court. In preparing the plans, the committee of architects and physicians visited all of the well known children's hospitals in the country and it is hoped to have the new institution representative of the best type of hospital in its special field.

IOWA

Banquet for Physicians.—The Van Buren County Medical Society recently gave a complimentary banquet, at Des Moines, in honor of Dr. George R. Neff and Dr. Thomas G. McClure, to celebrate their fiftieth year of active practice in Iowa. Dr. Roger N. Cresap was toastmaster.

County Society Anniversary.—The fiftieth anniversary meeting of the Marion County Medical Society was held in Knoxville, June 22. In the afternoon, the physicians and dentists met in scientific session. Dr. John W. Martin, Des Moines, read a paper on 'Diagnosis of the Acute Abdomen" and W. L. Harlan, D.D.S., Knoxville, spoke on "Our Relation from the Dental Viewpoint."

Personal.—Dr. Charles S. Chase has resigned as professor of materia medica at the University of Iowa, Iowa City, following thirty years of service. Dr. Chase will retain his connection with the dental college and the school of pharmacy. Dr. O. H. Plant will succeed Dr. Chase in the department of materia medica.——Dr. Lucius F. Hoyt, Jefferson, has just returned from the Methodist Hospital, Des Moines, where he had his left arm amputated just below the shoulder.——Dr. George L. Prentice, Pulaski, has been appointed physician to the Indiana State Soldiers' Home, Lafayette, effective, July 1.

KANSAS

Kansas State Board of Health.—At the annual meeting of the board held in Topeka, June 30, Dr. Joseph E. Hawley, Burr Oak, was elected president. Dr. Jacob J. Entz, Marion, vice president, and Dr. Samuel J. Crumbine, Topeka, was elected secretary of the board.

KENTUCKY

Traveling Trachoma Clinic.—A fully equipped hospital wagon, drawn by four mules, is the conveyance used by Dr. Charles B. Kobert, director of the bureau of trachoma and prevention of blindness of the state board of health, for his six months' trip through western Kentucky. Dr. Kobert, who started on his trip early in June, will give free treatment to all persons suffering from eye diseases. On the trip made in the summer of 1921 Dr. Kobert operated in eastern Kentucky on more than 4,000 patients having trachoma. Congress has made an appropriation of $200,000 for a new trachoma hospital at Pikeville.

LOUISIANA

Personal.—Dr. Henry Ladd Stickney, U. S. Veterans' Hospital, Dwight, Ill., and formerly in charge of the surgical service at Fox Hills Hospital, Staten Island, N. Y., has been appointed superintendent of the Presbyterian Hospital, New Orleans, and reported for duty, July 1.——Dr. Ernest S. Lewis was recently elected president of the Louisiana Antituberculosis Association at the annual meeting in Baton Rouge.

MAINE

Fund for Medical Scholarships.—At the recent meeting of the Maine Medical Association, it was announced that the interest accruing on a bequest made some years ago to the Bowdoin Medical School, now out of existence, will be used

in providing medical scholarships for students from the state of Maine The president of Bowdoin College is charged with the management of the fund and applications for the scholarships are to be made to him

Public Health News—Under the auspices of the Maine Public Health Association, a luncheon conference was held recently in Augusta, under the presidency of Dr Elmer D Merrill, Foxcroft, at which more than thirty organizations were represented The health program for the next three years in Maine was outlined by Dr Merrill, who stated that this will include an extension of the visiting nurse service throughout the state, the holding of clinics for Maine physicians, the extension of the Modern Health Crusade in the schools, the development of fresh air schools, industrial nursing and special campaigns for the eradication of tuberculosis, cancer and social disease, and for the promotion of dental and child hygiene, baby welfare and the conservation of vision Among those who attended the conference were Dr Clarence F Kendall state health commissioner, Dr Benjamin L Bryant secretary of the Maine Medical Association, Dr A Thomas, state superintendent of schools, and Dr Donald B Armstrong executive officer of the National Health Council, who was the guest of honor

MARYLAND

Drive Against Diphtheria Started—In an effort to make diphtheria a negligible menace to public health in Baltimore city, the health department has sent to Baltimore physicians communications urging general use of toxin-antitoxin, in order to convey immunity to the disease Under the direction of Dr C Hampson Jones, health commissioner, and Dr John F Hogan head of the bureau of communicable diseases, a plan of procedure has been worked out to make diphtheria as light a factor in the health problem as smallpox has become through similar preventive measures Dr Jones made it clear that no immediate serious diphtheria situation exists The reason for the campaign at this time is to secure wide use of the department s plan now so that schoolchildren may obtain immunity before school begins and the active season for the disease returns While adults can obtain the same treatment children are the chief concern because of their susceptibility to the disease

MICHIGAN

Michigan Health Officers Association—At the annual meeting of this association the following officers were elected for the ensuing year president, Dr Guy L Kiefer, Detroit, vice president, Dr David Littlejohn, Ishpeming and secretary-treasurer, Dr William J V Deacon, Lansing

Michigan Association of Industrial Physicians and Surgeons—At the annual meeting of the association in Flint recently, Dr Guy Kiefer Detroit was elected president, Dr Clarence S Gorsline Battle Creek, vice president, and Dr Grover C Penberthy, Detroit, secretary-treasurer

Hospital Merger—The University Homeopathic Hospital of the University of Michigan Homeopathic Medical School, Ann Arbor, was merged with the University of Michigan Hospital July 1, following the merging of the Homeopathic Medical School with the University of Michigan Medical School

Chiropractors Convicted—The July number of the *Journal of the Michigan State Medical Society* states that four chiropractors C L Tennant Z B Mead, H F McKnight and Florin Palmer, were recently convicted in the Detroit Municipal Court of practicing medicine without a license They were sentenced to pay a $200 fine each, or to serve four months in the house of correction by Judge Keidan, June 15

MINNESOTA

Prevention of Blindness—The governor of Minnesota recently appointed seventeen citizens of the state to serve as a commission to investigate the work being done for the blind by the state, and the activities for preventing blindness Charles A Prosser, Dunwoody Institute is chairman of the executive committee The commission has already appointed the committee for the prevention of blindness, with Dr Elmer as chairman

MISSOURI

Hospital News—Plans have been completed for the $200,000 addition to St John s Hospital Springfield——Bids have been called for the erection of the $1 000,000 hospital to be built by the government at Jefferson Barracks St Louis——Dr Ola Putnam, Marceline, has completed plans for the erection of a hospital in Marceline, to be erected at a cost of $25,000

Medical Society Buys Site—The St Louis Medical Society has purchased 150 feet of frontage near the Moolah Temple for the construction of a building to house its activities The present auditorium has a seating capacity of 250 while the membership of the society is 1,012 and the 21,000 volume library of the society has outgrown its present quarters The new building will provide an auditorium seating between 500 and 1 000 persons, and adequate room will be provided for the present library needs and for future growth

NEW JERSEY

State Tuberculosis Clinic—Through the efforts of the New Jersey Antituberculosis League, an appropriation of $10 000 has been secured for the establishment of a state clinic to be under the direction of the state sanatorium at Glen Gardener This will providing clinic facilities for a number of counties

NEW YORK

Smallpox Epidemic—It is reported from Niagara Falls that there are forty-one cases of smallpox in the city All of the cases are mild in character, but orders for vaccination have been issued and unless the school students are vaccinated they are to be quarantined for three weeks

Government Hospital to Be in Dutchess County—A 228-acre farm near Beacon Dutchess County, is to be the site of one of the three hospitals in this state for the care of disabled veterans The site has been acquired at a cost of $100 000 and a $1 000 000 hospital will be erected there It is planned to use this institution as a reclamation hospital

Public Health Certificates—Twenty-three physicians who had completed the Albany graduate course in infectious diseases and public health were presented with certificates by Dr Matthias Nicoll, Jr, deputy commissioner of the state department of health, at the annual dinner of the Eastern New York Public Health Association in Albany, June 22

Personal—Dr Kenneth Gabriel Jennings, Brooklyn who recently graduated from New York University Medical College was awarded the Glover C Arnold Prize for students, awarded for the best surgical examination paper——Dr Livingston Farrand, president of Cornell University, Ithaca, was given the degree of doctor of laws recently by Princeton University——Dr Edward A Spitzka, Washington D C, has been appointed district medical officer, second district U S Veterans Bureau This district embraces the states of New York, New Jersey and Connecticut

Lead Lined Roentgen-Ray Rooms—The committee on applications of the bureau of institutional inspection of the health department recently learned that there are numerous laymen operating roentgen-ray machines and making diagnoses which is contrary to law The committee ascertained that many persons operating roentgen-ray machines claim that they are not conducting laboratories and for this reason do not need a permit One of the most important regulations of the new roentgen-ray law concerns the protection of rooms adjoining the laboratories It is required that the walls and ceiling of the roentgen-ray laboratories be lined with lead Metal screens and filters for the protection of patients and operators are also required

State Sanitary Officers' Association—At the annual conference of the sanitary officers and public health nurses of New York held in Saratoga Springs July 27-29 the following officers were elected for the ensuing year president, Dr Stanton P Hull Grafton first vice president Dr Garys Masillon Lewis Vernon, second vice president Dr Charles D Kline, Nyack and third vice president, Dr Albert C Johnson Gloversville, treasurer, Dr Myron M Metz Williamsville, and secretary Dr Montgomery E Leary Rochester Dr Florence L McKay director of the new division of maternity infancy and child hygiene of the state department of health (under the terms of the Davenport-Moore law adopted by the legislature as a substitute for the federal Sheppard-Towner Act), announced that the department is now ready to offer assistance to cities villages or districts that may desire to undertake local campaigns for the protection of the health of mothers and children

Rockefeller Institute—The board of scientific directors of the Rockefeller Institute for Medical Research announces promotions and appointments as follows

Dr Wade H Brown hitherto an associate member in pathology and bacteriology has been made a member Dr Homer F Swift hitherto an associate member in the department of the hospital has been made

a member Dr Carl A L. Binger hitherto an assistant in the department of the hospital has been made an associate Dr Albert H Ebeling hitherto an assistant in experimental surgery has been made an associate Dr Laura Florence hitherto an assistant in the department of animal pathology has been made an associate Dr Albert B Hastings hitherto an assistant in the department of the hospital has been made an associate Dr Philip D McMaster, hitherto an assistant in pathology and bacteriology has been made an associate Dr Louis A Mikeska hitherto an assistant in chemistry has been made an associate Dr Ida P Rolf, hitherto an assistant in chemistry has been made an associate Mr Fred A Taylor hitherto an assistant in chemistry has been made an associate Dr Hugh J Morgan in the department of the hospital has been appointed resident physician at the hospital Dr David I Hitchcock hitherto a fellow in general physiology has been made an assistant Mr James M Neill hitherto a fellow in the department of the hospital has been made an assistant Mr Henry S Simms hitherto a fellow in chemistry has been made an assistant

The following new appointments are announced

Prof Karl Landsteiner member in pathology and bacteriology Dr Christen Lundsgaard associate in the department of the hospital Dr Thomas M Rivers associate in the department of the hospital Miss Lillian E Baker chemical assistant in the division of experimental surgery Dr Edmund A G Branch assistant in the department of the hospital Dr George R Brow assistant in medicine and assistant resident in the hospital, Dr Harry W Dahl assistant in medicine and assistant resident in the hospital Dr Douglas R Drury assistant in pathology and bacteriology Dr Geoffry C Linder assistant in medicine and assistant resident in the hospital Dr Henry A Murray Jr assistant in the department of the hospital Mr Frederic M Nicholson assistant in pathology and bacteriology Miss Ida W Pritchett assistant in pathology and bacteriology Dr Harold A Salvesen assistant in medicine and assistant resident in the hospital Dr Harold J Stewart assistant in medicine and assistant resident in the hospital Dr Chester M Van Allen assistant in pathology and bacteriology and Miss Helena A M Tibbetts fellow in the department of animal pathology

Dr Francis Peyton Rous member in pathology and bacteriology has been appointed coeditor of the *Journal of Experimental Medicine* Dr Harold L Amoss hitherto an associate member in pathology and bacteriology has accepted a position as associate professor of medicine at Johns Hopkins Medical School Dr Lloyd D Felton hitherto an associate in pathology and bacteriology has accepted a position as assistant professor in preventive medicine and hygiene at the Harvard Medical School Dr Raymond G Hussey hitherto an associate in biophysics has accepted a position as assistant professor in pathology in Cornell University Medical College Dr Robert L Levy hitherto an associate in the department of the hospital has accepted a position as associate in medicine at the College of Physicians and Surgeons Columbia University and assistant visiting physician at the Presbyterian Hospital Dr Edgar Stillman hitherto an associate in the department of the hospital has accepted a position as associate in medicine at the College of Physicians and Surgeons Columbia University and a sistant visiting physician at the Presbyterian Hospital Dr Goronwy O Broun hitherto an assistant in pathology and bacteriology has accepted a position as assistant in the Thorndyke Laboratory Boston Mass and assistant resident physician at the Boston City Hospital

New York City

Seagoers—Dr Stuart L Craig and Dr Henry Hall Forbes sailed for Europe on the White State Liner *Majestic*, July 8 ——Dr and Mrs Horatio Pollock sailed for Europe on the *President Wilson*, July 8——Dr and Mrs Charles H May sailed for Naples on the *Conte Rosso* of the Lloyd Sebaudo Line, July 5

Banquet for Physicians—A banquet was tendered Dr William H Park and Dr Abraham Zingher, director and assistant director of the bureau of laboratories of the department of health, respectively, at the Pennsylvania Hotel, June 29 The banquet was given on the occasion of the completion of the Schick diphtheria prevention work in the public schools of Manhattan and the Bronx, in which more than 100,000 children had been tested and those found to be susceptible injected with toxin-antitoxin, during 1920-1922 The dinner was given by the staff of physicians and nurses who had been engaged in the work

City-Wide Diphtheria Immunization Campaign—During the summer months, the health department has in view the Schick testing of all children of preschool age and immunization against diphtheria of those that require it A supply of circulars in three languages, describing the need and advantages of the procedure, has been printed and a supply will be sent to every physician who is willing to distribute them to his patients Physicians who do not care to Schick test children and to administer toxin-antitoxin to such as require it are urged to refer children to the nearest health department station where the work will be done Seven doctors and seven nurses, under Dr Abraham Zingher, have been assigned to this work by the health department

NORTH CAROLINA

Graduate Course in Internal Medicine—Under plans developed by the University Extension Division and the medical department of the University of North Carolina, a graduate medical course in internal medicine was given in twelve communities of the state, during the week June 19 24 Centers were established at Charlotte, Salisbury, Ashboro, Lexington, High Point, Greensboro, Durham, Selma, Goldsboro, Wilson, Rocky Mount and Tarboro Once each week, a lecture and clinic will be given in every center Dr F D Adams, Harvard University, has charge of the groups in the East and Dr Frank Amos Chapman Rush Medical College, Chicago, has charge of the groups in the West.

OHIO

Pure Food and Health Exposition—With the cooperation of the Babies' Milk Fund Association, the Association for the Welfare of the Blind, the Milk Commission of the Cincinnati Academy of Medicine, the Milk Exchange of the Chamber of Commerce, the Boy and Girl Scouts and the Antituberculosis League, a pure food and health exposition will be held in Cincinnati, July 18-30 Dr William J Graf, chairman of the Milk Commission of the Academy of Medicine will be in charge of the clinic for malnourished children, with a staff of physicians and nurses The U S Pure Food and Drug Laboraory, the state health department, the street cleaning department, the tenement house inspection bureau and the fire department, among others, will take part in the exposition

PENNSYLVANIA

Addition to State Hospital—An addition to the State Hospital Ashland, will be named in honor of Dr Jonathan C Biddle who has served as chief surgeon for many years The dedicatory exercises were held, July 12 The presentation was made by Mr E White of Mount Carmel and the acceptance on behalf of the state, was made by Hon William G Sproul governor of Pennsylvania

Statue to Physicians—The war record committee of the Allegheny County Medical Society met June 26, in the studio of Giuseppe Moretti, Pittsburgh to inspect the model for the medical society memorial statue, which will be erected in Schenley Park to commemorate the services of local physicians in the World War The memorial will be cast in bronze and mounted on a granite pedestal

Camp for Physicians—The annual camp for medical directors and division chiefs was opened June 26, at Mont Alto Sanatorium, by Col Edward Martin, commissioner of health The school will be conducted on military lines, the physicians occupying tents placed near the administration building Lecturers from the foremost universities will be present and give addresses Motion pictures dealing with public health, playlets illustrating the enforcement of existing health laws and regulations, and instruction showing how adequate milk control, a pure water supply and proper sewerage systems can be obtained by municipalities will be given

UTAH

State Medical Meeting—A special session of the Utah State Medical Association was held in Salt Lake City, June 30 and July 1, with an instructive program, including motion pictures Dr Joseph Colt Bloodgood Baltimore, Dr William Englebach, St Louis, Dr Alfred W Adson Rochester, Minn and Dr Robert H Millwee, Dallas, Texas, were among the visiting physicians who delivered lectures and held clinics during the session A trip to Saltair, including bathing and dinner, was made, July 1

WISCONSIN

Hospital News—Bids for the construction of the $65 000 addition for St Mary's Hospital Rhinelander, were opened June 30, and construction work will be commenced immediately ——A hospital will be erected on the south side Milwaukee, at a cost of $500,000——In connection with the observance of Hospital Day in Ashland two tablets commemorating the dead physicians and nurses who were associated with St Joseph's Hospital were dedicated——The new nurses' home, built in connection with St Joseph's Hospital, Marshfield, was opened for inspection, May 12

Personal—Dr F M Shultz has resigned as superintendent of the Milwaukee County Hospital Wauwatosa, because of ill health——Dr Gustave C Wichman, Rib Lake has resigned as secretary of the Price-Taylor County Medical Society and has left for California Dr Edgar B Elvis, Medford, has been elected for the unexpired term——Dr William A Rauch has been appointed resident physician at *South View* Isolation Hospital——Dr Herman Gilbert, Madison, is seriously ill——Dr F Eigenberger, Prague,

Czechoslovakia, has arrived in Sheboygan to take up his new duties as pathologist of the Sheboygan Clinic——Dr Carroll D Partridge has resigned as city health officer of Wausau ——Dr Harry B Moe, Blanchardville, was recently elected president of the Lafayette County Medical Society

WYOMING

Wyoming State Medical Society—At the twentieth annual meeting of the society held in Sheridan, June 20 22, under the presidency of Dr Elmer A Kell Rawlins, the following officers were elected for the ensuing year president, Dr Galen Adis Fox Cheyenne, counsellor, Dr Jesse de Leon Lewellen, Powell, secretary, Dr Edwin Earl Whedon, Sheridan, and treasurer, Dr Chester Ellis Harris, Basin

CANADA

Medical Society Reorganized—The Cumberland County Medical Society of Nova Scotia, which has been inactive since 1913 was recently reorganized, with the following officers president, Dr Daniel MacIntosh, Pugwash, vice presidents, Drs William Rockwell River Hebert, Moncon J Wardrope, Springhill, and Murdock D McKenzie Parrsboro, secretary-treasurer, Dr Walter T Purdy, Amherst It was furthermore decided that the society should affiliate with the Medical Society of Nova Scotia

Quebec Medical Association—The inaugural meeting of the Province of Quebec Medical Association was held in May at Montreal under the presidency of Dr Simeon E Grondin Quebec The following officers were elected president Dr Simeon E Grondin, Quebec, vice presidents Drs Louis de L Harwood William G Reilly, Charles F Martin, secretaries, Drs D Grant Campbell and Ernest Gariepy and treasurer, Dr E E Trottier The president and secretary of each medical society of the province is ex-officio a member of the general committee There were 200 members in attendance The distinctive character of these reunions is that they are devoted exclusively to clinical work, with presentation of patients roentgenograms and specimens The *Bulletin Medical* for June gives the address of the president, at the meeting held in Laval University before the two days of the clinical demonstrations in four hospitals Some of the hospitals gave lunch to the guests, and the University of Montreal organized a concert smoker

GENERAL

Operating Room on Liner—A modern dispensary and operating room are included among the facilities of the refurnished *Mongolia* of the American Line which sailed for Hamburg June 21

Mobilization of English-Speaking Physicians—The American Chamber of Commerce at Berlin has recently completed the mobilization of all English-speaking physicians in the city, who will be available in case of sudden illness or emergencies for Americans unable to speak German

Proposed Bill on Counterfeiting Liquor Prescriptions—Imprisonment for from one to ten years in a federal prison and a fine of from $1,000 to $10 000 are the penalties imposed by a bill introduced in the senate by Senator Willis of Ohio on those counterfeiting physicians prescription blanks to secure intoxicating liquor The title of the proposed act reads as follows A bill making it unlawful to forge or counterfeit permits or other papers used in connection with the enforcement of the National Prohibition Act and providing penalties for the violation thereof The bill has been referred to the Senate Committee on the Judiciary

Donation for Relief Work—The food packages distributed to Russian physicians have thus far amounted in value to $70,000 The latest allocation of $20 000 for that purpose was made possible through a gift of $35 000 by William Bingham Jr, an American Two thousand American Relief Administration food packages have been set aside for the benefit of starving physicians who are aiding the relief administration in its inoculation program Inoculation against typhoid, two types of paratyphoid cholera and smallpox is being carried on at every point to which American food is distributed More than 10 000 000 Russians will be immunized following the completion of this program

Foreign Students and the Immigration Law—The executive committee of the American Association of University Professors recently adopted a resolution urging that Congress be petitioned to amend the existing 3 per cent immigration act by exempting from its provisions all bona fide foreign students, stating that the actual operation of the present law has been attended with such deplorable annoyance to incoming students as to lower the prestige of the United States as a center of education The resolution further states

> WHEREAS The omission to exempt bona fide students desirous of entering American institutions of learning from the operation of the present immigration law is probably due to inadvertence inasmuch as such students are expressly exempted from the operation of the Chinese exclusion act and the agreement with Japan and that in case such amendment be not made effective before September 1, the government be petitioned to cause the adoption by the Bureau of Immigration of such administrative rulings as will preclude the possibility of incoming students being sent to Ellis Island or other detention stations

To Renew Fight on Cancer—The American Society for the Control of Cancer has received its certificate of incorporation in New York State Dr Francis Carter Wood, one of the incorporators, announces that the society s field representative will confine his efforts for some months to Pennsylvania, Iowa and Illinois, which have not yet been fully organized The society has increased its membership more than 200 per cent during the last three years, and now has about 2,000 members A grant of $26,750 has been made to the society by the Commonwealth Fund which made possible the organization of the field work, and Mrs M Lasker and family have set aside $50 000 as a permanent endowment fund Five new names have been added to the board of directors Melville E Stone, Dr Frank Billings, Chicago Dr W W Keen Philadelphia, Postmaster General Dr Hubert Work and Dr W T Huntington, San Francisco Dr Edward Reynolds of Boston was named as chairman of the council

Hearings on Social Hygiene Board Bill—Hearings before the House Committee on the Judiciary on the bill introduced by Representative Kahn of California for the transfer to the Department of Justice of the law enforcement functions formerly discharged by the Interdepartmental Social Hygiene Board, with reference to the repression of prostitution in localities where armed forces of the United States are stationed brought out a practical unanimity of opinion in support of the measure The recognized fact that the board would cease its activities on June 30 because of the absence of any appropriation for carrying forward its work limited discussion closely to advisability of continuing its law enforcement activities under federal auspices and, if so continued, of vesting them in the Department of Justice There was unanimity as to the desirability of such activities being continued and substantial agreement as to the expediency of charging them to the Department of Justice rather than to either the Army, the Navy, or the Public Health Service Among the speakers in support of the measure were Major-Gen W M Ireland Surgeon-General of the Army, Dr Hugh S Cumming, Surgeon-General of the United States Public Health Service Dr Valeria H Parker, executive secretary of the Interdepartmental Social Hygiene Board, and Dr William F Snow, secretary of the American Social Hygiene Association

LATIN AMERICA

Argentine Physicians—According to a recent article in the *Boletin del Sindicato de Medicos de la Republica Argentina* there are at present in that country about 5,000 physicians Assuming generously a population of 10 million this would make one physician for each 2,000 inhabitants Since 1914 1 508 physicians have graduated from the Buenos Aires Medical School and since 1921, fifty at Cordoba

Personal—Dr Filiberto Rivero of Havana is visiting clinics in this country——Dr Eliud Garcia Treviño and Dr Aliber Garcia Treviño of Monterey are taking postgraduate courses in Chicago and Philadelphia respectively——Dr Franklin P Pyles an American physician, now practicing at Rio de Janeiro Brazil is visiting in Chicago It is claimed that Dr Pyles is the only English-speaking physician at Rio

Retirement of Professor Coronel—The *Anales de la Sociedad Medico-Quirurgica del Guayas*, of Guayaquil commenting on the fact that Dr J Coronel has resigned his chair of internal medicine in the University of Guayaquil relates that he has been in practice in Guayaquil for forty-seven years and on three occasions has been given the official thanks of the national public health service for his various services He was also awarded a gold medal por Merito Profesional,' by the first national medical congress held in Ecuador, which met at Guayaquil in 1915 He recently founded a scholarship in medicine and in law at the University of Guayaquil and is honorary president of the Sociedad Medico-Quirurgica del Guayas

FOREIGN

Royal College of Surgeons of Ireland—At the annual meeting of the college Sir William I de C Wheeler was elected president, Dr Robert C B Maunsell, vice president, and Sir A H Ormsby, secretary

Posthumous Tribute to Keating-Hart—The French government has published a statment citing the devoted services during the World War of Dr Keating-Hart, the well known specialist in electrology and radiology, who introduced fulguration and who died last January at Paris He continued his work although suffering from the effects of roentgen injury, requiring two operations The *Journal Officiel* of June 20 announces that his name has been placed on the records as chevalier of the Legion of Honor It is said of him that he "wedded the long electric spark to the high frequency current"

Dramatization of Pasteur—A play by M Sacha Guitry entitled "Pasteur" has recently been produced in London This play was originally produced in Paris in 1919 The scenes depict Pasteur in his study in 1870, in the Paris Academy of Medicine, where he vigorously combats an attack on his theories, with the boy Joseph Meister, who has been bitten by a dog and comes for treatment to Pasteur, who sends for a physician to perform the inoculation, at his home in the country, and finally in the crown of his career, at the reception given him by the president of the republic, in the amphitheater of the Sorbonne

Postponement of Second International Congress on Comparative Pathology—This often postponed congress, which was finally definitely appointed for Sept 20, 1922, has been postponed again till next spring The reason is said to be "difficulty in organization," which means, probably, difficulty in making the congress truly international in scope The topics appointed for discussion are regeneration of nerves, cancer, deficiency diseases, and diseases with a filtrable virus, but communications on a large number of other subjects have already been announced The *Paris Medical* of June 24 contains a list of fifty-five

Socety for the Study of Venereal Disease—The Medical Society for the Study of Venereal Disease was formed in London, June 9 Dr David Watson, Glasgow, presided at the meeting It was agreed that the society should not express its corporate views on any subject of administrative or political interest, unless invited to do so by the government, and that, in the event of such invitation, the views expressed should be those of 80 per cent of the members voting on a referendum The annual general meeting will be held each year in July Local divisions of the society will be formed and appoint their own officers Dr Robert Forgan agreed to act as secretary until the first regular meeting of the society this month

Laryngeal Tuberculosis in the Netherlands—The Netherlands Laryngologic Society has been collecting data on the prevalence of laryngeal tuberculosis, and has found that it is overlooked in an amazingly large percentage of cases In Leiden, where laryngologists are connected with the consulting dispensaries, the proportion of laryngeal tuberculosis cases was 6 per cent while it was reported from other towns as only 0 4 per cent in 15 240 tuberculous examined by nonspecialists In the sanatoriums that responded, the proportion was reported as 13 per cent They urge the necessity for specialist examination of the larynx in the preventoriums as a routine practice, regardless of whether the applicants complain of throat symptoms or not

Personal—Dr Edwin Bramwell has been appointed to the Moncrieff-Arnott chair of clinical medicine at the University of Edinburgh, to succeed the late Prof Francis D Boyd—— Dr Hugh Norton has been appointed to the chair of medicine at Anderson College of Medicine, Glasgow, to succeed Dr John M Cowan, who resigned recently——Mr Thomas H Openshaw, senior surgeon of the London Hospital, has retired from the active staff after forty-five years' connection with the medical school——Prof Hijmans van den Bergh delivered a London University Lecture, June 21, on "The Pathology of Hemoglobin"——Dr John C McVail has been awarded the Jenner Medal of the Royal Society of Medicine ——Mr Evelyn D Telford, lecturer in practical surgery at the University of Cambridge, England, has been appointed professor of systematic surgery at the University of Manchester to succeed Prof J W Smith, who will vacate the chair in September

The Graduate Courses in Heliotherapy at Leysin—THE JOURNAL mentioned on page 1932, June 17, 1922, Rollier's courses which are held in August each year The next course opens Aug 15, 1922, and consists of twelve lectures on the various aspects of heliotherapy and roentgenographic control, with practical demonstrations in some of the various sanatoriums in his charge The course is gratuitous, the charge for room and board is 12 francs a day The lectures are given by Rollier and six of his assistants Rollier's own subjects are "The Practical Application of Sunlight in Treatment of Tuberculosis", "Heliotherapy of So-Called Surgical Tuberculosis', "Work in the Treatment of Tuberculosis, and the Future of the Convalescents', 'Preventive Heliotherapy," and demonstrations of results in the "Sun School" American physicians are welcomed Applications are received up to the two weeks before the course opens Address Dr Rollier, Leysin-Village, Switzerland This is the second year of these courses

Tribute to Marchiafava—Prof E Marchiafava, having reached the age of 75, retired, June 5 from the chair of pathologic anatomy at the University of Rome after forty-eight years of continuous incumbency A fund has been endowed in his name by contributions from royalty, the city of Rome, the Italian Red Cross, the public health service, the hospitals and banks and others, to found scholarships at the University of Rome A number of addresses were made by delegates from various scientific societies and Marchiafava's numerous contributions to science were enumerated, his initial research on malaria and his leadership in the campaign against malaria in Italy, his discovery of the estivo-autumnal parasite of the cause of melanemia and his studies in syphilis, tuberculosis, alcoholism, etc The city of Rome has always regarded him as the one responsible for having freed it from malaria One of his latest works was the foundation of the Asilo Antimalarico Communale as a home in Rome for the children of families living in the malaria infested marshy districts in the region A tablet was placed on this building by the community when it was inaugurated last year, paying tribute to Marchiafava as the originator of the project

American University Union—George E McLean, director of the American University Union in London, announces that since the British universities have recently given renewed attention to advanced and research work and have established the Ph D, or D Phil degree (with American graduate students in mind), the union is now able to advise and introduce American graduate students so that, without loss of time, they may proceed with their work in the British universities and gain admission to the reading room of the British Museum the public record office and other archives and collections Among the functions of this office are the receipt and forwarding of mail, keeping a list of boarding houses, and posting notices of public lectures and amusements Round table conferences are held by British scholars and public men during the season The Universities' Bureau of the British Empire the Office National des Universites et Ecoles Françaises and the Danish Students' Bureau are housed in the same building with the American University Union A common library and reading room is located in the building, and visiting American scholars are advised to register, free of charge, immediately on their arrival in London

The New Journal, "Social Defense"—The foundation of the Italian Institute of Hygiene by Prof E Levi of Rome has been already mentioned and the wide scope of its efforts commented on It aims to compile statistics, coordinate efforts of all kinds of organizations public and private, and maintain propaganda to promote public and private health, safety, and moral and physical well being Most of the leading statesmen and clinicians of Italy are on the committee in charge, and pamphlets and films to aid in the work are being published, and the monthly journal *Difesa Sociale*, has been founded Professor Levi desires to emphasize in this publication American methods of public health administration and personal hygiene, in addition to its other aims The first two numbers contain among other articles one by Grassi on "The Present Status of Malaria," and others by Levi on "The Value of the Race and Social Defense' and "The Human Balance-Sheet of the World War' The agitation on behalf of the defense of human beings against avoidable ills is reviewed as it proceeds in various countries The subscription to the *Difesa Sociale* is 50 liras The official title of the institute is the Istituto Italiano d Igiene, Previdenza ed Assistencia Sociale The address is Via Condotti 8 Rome

Deaths in Other Countries

Prof **C U Zanetti**, director of the Institute of Pharmacological Chemistry of the University of Parma——Prof **Jenö Holzwarth**, who held the chair of radiology in the University

of Budapest——Prof Edmund Weil of Prague, died of typhus contracted by infection in his laboratory at Lemberg, where he was working in response to an appeal from the Polish government——Dr Eladio Eguren, of Rosario Argentina, member of the municipal council——Dr A de Barros, professor of nervous diseases at the medical school of Bello Horizonte, Brazil——Dr N Coppola, professor of radiology and electrotherapy at the University of Naples, another victim to the early zeal in the application of the roentgen rays aged 42 Parts of both hands were amputated at various times and the dermatitis finally became malignant, rebellious to all treatment——Dr Armand Imbert, of the medical faculty at Montpellier

CORRECTION

Seattle Health Officer—In THE JOURNAL, July 1, it was stated that Dr Rowe France would succeed Dr Hiram M Reed as city health officer Dr Reed writes that his term of office will not expire until March, 1924

Government Services

Organization of Reserve Hospitals of the Army

June 30 Surgeon-General Ireland authorized the organization of a general hospital to be known as General Hospital No 21 Organized Reserves at the Washington University School of Medicine, St Louis This unit served during the World War as Base Hospital No 21 with the British Expeditionary Forces Lieut-Col Malvern Bryan Clopton, M O R C, is to command this unit and is now engaged in enrolling the number of reserve officers necessary to fill the positions of the unit called for by tables of organization This is pursuant to the policy of the Surgeon-General to revive and perpetuate in a general way the units that served in the World War, originally organized by the Red Cross New units will be given new numbers During the war, these units served as mobile hospitals and base hospitals and they will now retain their former numbers as surgical hospitals and general hospitals They are no longer Red Cross units but pertain to and are part of the military establishment This is the first new reserve hospital to be authorized by the Surgeon-General to meet the medical needs of the military establishment in case of emergency

The Surgeon-General of the Army is now required to organize, largely with medical department reserve officers, the evacuation and surgical hospitals that will function under the control of tactical armies and the general hospitals convalescent hospitals, convalescent camps, station hospitals and the laboratory and medical supply services of the communications zone and home territory It is the desire of the War Department that these reserve hospitals take on a local distinction which will pertain to the medical college or approved internship hospital that is to foster the unit The officers of these units are to be selected within the foster institution or in the community subject of course, to the laws and regulations as to eligibility for appointment in the Officers Reserve Corps The nurses of these units will be taken from the enrolled nurses of the Red Cross nursing service, which constitutes the nursing reserve of the army It is not intended at this time to recruit the reserve enlisted men nor to issue property, the idea being that there will be a reserve organization of commissioned personnel at the parent institution, which can readily be expanded in case of necessity, to an army hospital

LIABILITY FOR SERVICE

Considerable misunderstanding exists as to the liability of reserve officers being called to active duty The law of June 4, 1920 provides that except in time of a national emergency expressly declared by Congress no reserve officer will be employed on active duty for more than fifteen days in any calendar year without his own consent The War Department does not contemplate calling reserve officers to active duty for training or other purpose for fifteen days each year For some time to come, the training must be voluntary, owing to the limited appropriations A reserve officer called to active duty for training purposes during any calendar year and on whom such duty for business or other good reason would work a hardship, will on request be exempted from such tour of duty The Surgeon-General recognizes the drawback to membership in the Medical Reserve Corps, if professional and business men who have had war service are inconvenienced by call to compulsory duty in time of peace each year, and does not contemplate any such policy

REQUIREMENT FOR PROMOTION

Training, however, is a requirement for promotion to field rank and higher grade, if the applicant has held no position commensurate with the position he is required to fill on promotion In organizing these units, it is to be understood that reserve officers are not required to hold the rank called for in tables of organization, as office and rank are separate and distinct

Personnel of the Reserve Corps

The Medical Department Reserve Corps now numbers approximately 12,000 officers, and applications are coming in rapidly A great many former officers have recognized the advisability of joining the reserve corps at this time owing to the regulations in regard to promotion, and also in view of the provisions of the Pay Act of the army which gives a reserve officer one-half time credit for all inactive service in the reserve corps when called to active duty, in addition to the base pay of his grade

Units to Be Organized

The Surgeon-General is now undertaking the organization of the following units pursuant to instructions of the Secretary of War three army medical headquarters, one general medical headquarters, two section medical headquarters, one specialist group thirty-six surgical hospitals (former mobile hospitals) forty-five evacuation hospitals, 165 general hospitals, twenty-four station hospitals (former camp hospitals) three convalescent hospitals, twelve hospital center headquarters, twelve convalescent camps, thirty-seven hospital trains three air service physical examining units, five general dispensaries three army medical laboratories, twelve hospital center laboratories two communications zone medical laboratories, one general medical laboratory, nine medical supply depots two intermediate medical supply depots, and two base medical supply depots

Summer Camp for Veterans

Disabled veterans of the World War Chapter 1, Minneapolis, in cooperation with the U S Veterans Bureau, have taken over the management of the Big Island Summer Camp at Big Island, Minn for the season A large radio outfit additional boats and a swimming instructor and recreational supervisor have been added to the camp, which opened June 19 and will stay open until September 2 There are accommodations for 180 men each two weeks, and the charge for all expenses is $15 for that period

Reduction in Army Medical Corps

Reduction of the commissioned personnel of the army as a result of the War Department appropriation act, fixing the minimum number at 12530 and providing for a board to select officers to be discharged or eliminated from the service will result in the reduction of the medical corps by 145 officers The present personnel of the corps is 1,128, and there is no doubt that many efficient officers will be involved The dental corps will suffer a severe blow also, although only seventy-seven officers will be eliminated from this service Included among these officers will be two or three colonels from five to seven lieutenant-colonels, from twenty to twenty two majors and the remainder the captains and lieutenants None of these officers have sufficient active service to their credit to permit their transfer to the retired list and unless retired for physical disability they will have to be discharged with a year's pay The medical administrative corps also will have a disastrous blow in this proposed elimination The corps will lose sixty-six of its 138 officers All of them were noncommissioned officers of long service and most of them could have retired with more pay than is now possible since they now have only the choice of being discharged with a year's pay or being demoted to warrant officers and retired as such Some of them have been in the medical corps of the army from thirty to thirty-five years and could have retired as enlisted men at $110 a month or after June 30 at $135 a month Now the best they can hope for is retirement as warrant officers at $75 a month The

provision of the act stopping all promotions in the army for six months has also served to lower the morale of the Medical Department

Contract for Jefferson Barracks Hospital Awarded

The contract for supplying the complete mechanical equipment for the U S Veterans' Bureau hospital to be erected at Jefferson Barracks, Mo, has been awarded to the S Faith Company, Philadelphia, for $311 000 The hospital will cost a million dollars According to Assistant Secretary of the Treasury Clifford the contract will be given for the construction of the buildings in the near future

Foreign Letters

PARIS

(From Our Regular Correspondent)

June 16, 1922

Medical Treaty Between France and Italy

On account of their proximity to Italy, the cities of Lyons Nice and Marseilles admit many Italian patients to their hospitals, and for a similar reason the hospitals of Bordeaux are crowded with Spanish patients The great number of Spanish women entering the obstetric clinics had already excited curiosity before the war, and an inquiry revealed that many of these women left their country during the last months of pregnancy to be delivered in France, especially in Bordeaux The Italian colony of Marseilles comprises more than 100 000 and 52 per cent of the total number of patients treated in its hospitals are of that nationality This is a heavy financial burden on the city Thus a Franco-Italian treaty has been ratified to settle the question According to the terms of the treaty, the citizens of the two nations who, on account of pregnancy or confinement, or for any other reason, are in need of help and any other medical assistance will be treated in the territory of the other contracting party as far as the application of social welfare laws are concerned in the same manner as the citizens of that country, either at home or in hospitals Money expended for treatment by the country in which the patient resides will not be reimbursed in any case by the country, department, province, commune or public institution to which the patient belongs, as long as an acute disease certified by the attending physician as such, renders medical assistance necessary *In other cases, including* relapses, reimbursements will be made for the period following the first forty-five days of treatment The country in which the patient lives will continue to bear the cost of medical care without reimbursement in cases concerning (1) the care at home or in hospitals of the elderly, cripples *and incurables having* at least fifteen years of constant residence in the country in which they enjoy the benefit of a relief pension or the gratuitous shelter of the home for the aged (this will be reduced to five years when the incapacitation is due to an occupational disease) and (2) all those who are ailing, the insane and other patients having five weeks' residence in said country As to those who cannot fulfil the residence requirements indicated, the government, after the forty-five days have elapsed, will as it sees fit and upon advice from the other government, either deport the patient if his condition permits, or charge the cost of the treatment to the country from which he comes

The two governments agree each to see that industrial centers having a large number of workmen of the other nationality are equipped with all the necessary means to take care of those who are ill or suffering from accidents, as well as their families When the cost of treatment given at home in hospitals or infirmaries *is borne by the employer*, workers will have the right to take advantage of it without any reimbursement by either country Benevolent or social welfare associations organized by Italians in France and by the French in Italy, and mixed associations in one or the other country, organized according to the laws of the country, will enjoy the rights and advantages guaranteed to French and Italian associations of the same nature

Protest by Antipornographic Societies

The Federation des societes antipornographiques recently held its third congress in Lyons and commented on certain formulas printed in the folders pertaining to prophylactic education delivered to young recruits at the time of their medical examination The federation believes that the best prophylaxis against venereal diseases is a prophylaxis having a character essentially moral Therefore, it requested the minister of war not to deliver this literature "that seems to make young men believe that debauch is inevitable at their age and that venereal diseases are without importance as long as medicines ward off danger, stating further, that this procedure is not scientific The minister of war transmitted the request to the Societe de prophylaxie sanitaire et morale, and it was easily demonstrated that in the folders in question moral prophylaxis has not been neglected For instance one may read the following advice 'Above all things, be fearful of ruining your health and future in debauch, for heedless sexual intercourse outside of marriage may entail dreadful diseases Therefore the society emphasized the necessity of continuing this prophylactic education of recruits, which in no way can be considered as immoral

The Fight Against Cancer

The minister of hygiene, charity and welfare recently appointed a commission to combine the works and efforts pertaining to the etiology, pathogenesis clinical study, therapeutics and prophylaxis of cancer The honorary president of the commission is Dr E Roux of the Pasteur Institute The president is Professor Quenu and the vice presidents are Professors Calmette, Roger, Letulle, Delbet and Hartmann

The French and American Medical Standpoints

In previous letters, I had the opportunity of showing the striking differences existing between French and American institutions and customs In the United States, public interest is placed above all, but, unfortunately, in France individualism is the dominant spirit I recall what Dr E Roux of the Pasteur Institute said regarding the slowness of the propagation of hygiene in France "The Frenchman's individualism does not lend itself to general social movements and concerted and continued efforts Hygiene requires that an individual submit to discipline for the common welfare"

The same spirit of individualism is also an obstacle to the realization among our professional associations of movements similar to that of the American Medical Association In a letter published in the last number of the *Gazette des hopitaux*, Dr Faxton E Gardner of New York shows also by a few examples "how often the medical standpoint differs in France and America" For instance the medical syndicate of the department of the Seine recently adopted the following resolution concerning consultations of pregnant women 'Visiting nurses would only constitute a new type of functionaries that the people would have to pay France *having* need of raising its birth rate, it is preferable to encourage these women to fulfil the duties of motherhood *Not only* are these functionaries useless, but they could also be harmful to expectant mothers and physicians' It is with reason that Dr Gardner remarks that not one medical association could be found in the whole United States that would even partly agree with a declaration of that kind, in which women are told rather disdainfully and without circumlocution not to compete with men, and to be satisfied with the duties to which

the stronger sex has always been pleased to confine them, those of motherhood and housekeeper

Gardner gives another example in which American opinion differs absolutely from French opinion He refers to the problems concerning bovine tuberculosis which have been recently taken up again in France following a request by the council of hygiene of the department of the Aisne asking the compulsory application of the tuberculin test to cows whose milk is sold to the public and demanding that all cows with positive reaction be sent to the slaughter houses This proposition was not accepted by the Academy of Medicine, and it stated that the only way of warding off the transmission of tuberculosis by milk was to boil the milk Dr Gardner compares this with the radical legislation of the state of New York, and remarks that once more in France principles of hygiene have been obliged to give way to considerations of economic opportunism

A New Hospital Society

Physicians and surgeons of the Saint-Antoine Hospital in Paris have just organized a society called the "Amis de l'hopital," the aim of which is to make wards more attractive and the stay of patients less distressing by decorating the wards with flowers and plants by giving better food to patients, and by performances similar to those soldiers enjoyed in the war hospitals Moreover the society helps families of patients who are very often deprived of resources through the sickness of one of the heads of the family and takes care of convalescents after they leave the hospital

NETHERLANDS

(From Our Regular Correspondent)

June 7, 1922

Hospital Congress

Several members of the board of directors of the largest hospitals in the country gathered in Utrecht under the presidency of Mr Wortman to discuss the various advantages that might be derived from a general congress in which questions pertaining to hospital organization would be taken up It is probable, judging from present reports, that the project will mature

Medical Directory

The 'Geneeskundig jaarboekje voor Nederland" for 1922 has just been published This directory gives a list of hospitals and sanatoriums and all information that may be of interest to the medical profession The Netherlands today has 3495 physicians, 381 dentists 925 midwives and 635 druggists The number of students in various medical faculties reaches 2079, including 267 women students

Annual Meeting of the Netherlands Medical Association

The Nederlandsche Maatschappij tot Bevordering der Geneeskunst will hold its session at Maestricht July 2 4 On account of the proximity of this city to the Belgian frontier, the organizers will take the participants to Spa during the congress

The Cancer Institute

Judging from advices received from Bandong (Dutch East India), it seems that the project of constructing a research institute for cancer is making progress This institute is to be annexed to a large public hospital where patients will be sheltered The laboratory will be kept up by the income derived from an endowment of 50,000 florins

The Fight Against Malaria in Northern Holland

The committee appointed to combat malaria has made some interesting reports, among which is one from Professor Swellengrebel who, during 1920-1921, made researches on infection by anopheles A careful examination of 5,093 mosquitoes obtained near contaminated houses has shown that the insects were infected, particularly during the months of September and December During that period, 6 per cent of the insects are infected, and this serves to prove that the killing of mosquitoes must be done in the fall On the whole, the fight seems to be successful, as the number of malaria cases dropped from 5,000 in 1918 to 500 in 1921

Home for Convalescent Railroad Employees

The railway administration intends to purchase the Villandry property of forty-nine acres near Nimeguen, for the erection of a home for convalescent railroad employees A temporary sanatorium was built in 1921 on the same site, and it sheltered this year 180 homeless men

PRAGUE

(From Our Regular Correspondent)

June 28, 1922

Death of Edmund Weil

Prof Edmund Weil of the German medical faculty in Prague died, June 15 of typhus fever Science loses in him one of the best students of the problems of immunity He has become known through his researches on the role of white blood cells in the mechanism of immunity, in which he followed the lines indicated by his teacher, Prof Oskar Bail He devoted most of his life to the study of typhus fever, and was one of the discoverers of the Weil-Felix reaction, which has become an invaluable means of diagnosis in the fight against typhus fever During the World War, he was engaged in these studies and he continued them after the armistice Having succeeded in cultivating the virus, he began studying in detail the lice and the processes which the virus undergoes in their bodies He was just about to make the final step in his discoveries and proceed to the immunization of man He went to Lemberg in order to have fresh typhus material always available When inoculating an animal intraperitoneally, he sprinkled his eye with an emulsion of the intestines of infected lice which he was injecting He paid no attention to the accident and, having finished his experiment, returned home Exactly on the eleventh day after the accident, he developed typhus fever He died in three days His death is the more tragic in that he left his life's work unfinished just at the stage when it promised to achieve its final aim in the immunization of man against one of the most deadly diseases His assistant Dr F Breinl who has been working with him for several years, is preparing his material for publication and will continue the research as Professor Weil had outlined it

Congress on Social Medicine

A social medicine congress was organized, June 4-7, in Ruthenia, by Czechoslovak physicians who went to Ruthenia two years ago when it became a part of the Czechoslovak republic subsequent to the World War The territory has been neglected so that it has become a focus of endemic infectious diseases such as typhus fever and smallpox Two years of hard work has brought very fruitful results The contagious diseases have been stamped out, and now social diseases form the most important problem in the public health campaign Because the local workers felt that they were not competent to deal with these problems, they called the best of the public health workers to Ruthenia to familiarize them with the local conditions and to seek their advice how to attack the social diseases most efficiently The congress held its session in five sections, the child welfare and tuberculosis sections being the most important ones In the child welfare section the discussion turned on the question as to where

child welfare work should be concentrated Some of the members felt that it should be concentrated around institutions like hospitals, while others emphasized the importance of preventive child health centers as they have been developed by the American Red Cross The second group has been able to defend its stand, so that the final resolution, which was accepted almost unanimously, recommends that all child welfare be concentrated in health centers and that institutions be looked on as necessary, but less important adjuncts in the struggle for better health of children The chief topic for discussion in the tuberculosis section was the fight against tuberculosis among railroad employees, which has been inaugurated on a large scale by the health section of the ministry of railroads An extensive survey of tuberculosis among this group of employees has been made, resulting in a number of specific recommendations for constructive work against tuberculosis The congress has been well organized and will certainly be a source of encouragement to the local workers On the other hand, it has been a rare opportunity for the guests from the other parts of the Czechoslovak Republic to acquaint themselves with the local conditions in Ruthenia which differ greatly from the conditions prevailing elsewhere in the Czechoslovak Republic

Tuberculosis Congress

The Czech Scientific Tuberculosis Society will hold a congress in Prague on the scientific problems of tuberculosis in the spring of 1923 This society, which was founded two years ago for promoting the research in tuberculosis, has done a valuable piece of work in promoting interest in the scientific questions connected with the fight against tuberculosis It holds its sessions regularly every fortnight, and a specific topic is discussed It has succeeded in acquiring a considerable sum of money for the support of scientific research in tuberculosis A special research laboratory of the society is being equipped in the bacteriologic institute of Prague University The initiative of this society has been proved, since there is scarcely a department at the Prague medical faculty in which there is not someone at work on a special topic which he is preparing for the tuberculosis congress in 1923

BERLIN

(From Our Regular Correspondent)

June 17, 1922

Adulteration of Pharmaceuticals

At a time like this, when deception and graft are found on every hand it is not surprising to note that pharmaceuticals are adulterated Repeatedly, the discovery has been made here that in place of cocain arsphenamin, santonin and other drugs, preparations of inferior value are sold Instead of arsphenamin, gypsum colored with brickdust is furnished in ampules, and as a substitute for santonin a buyer may receive magnesium sulphate Recently, acetylsalicylic acid was replaced by sodium bicarbonate These tablets presented the same outward appearance as the genuine tablets, even as to the style of type used on the wrapper and the trademark of the manufacturer, also the glass tubes were of the same size, the outer capsule, with the name of the manufacturer stamped on it, and the label were close imitations of the original As certain quantities of these adulterated products have been sent to foreign countries, this word of warning may not be superfluous

"Diabetes Bacilli"

As the readers of THE JOURNAL doubtless know, the English bacteriologists Renshaw and Fairbrother recently *(British Medical Journal,* April 29, 1922) set up the hypothesis that the bacillus which was found by them in the stools of nine diabetics and which seemingly possessed the capacity to hydrolyze starch (named by them *Bacillus amyloclasticus-intestinalis)* may have an etiologic significance in diabetes—suggesting that diabetes is due to an intestinal infection Von Noorden makes the following critical comment

1 Withdrawal or restriction of carbohydrates, the essential nutrients for the growth of *Amylobacter* has played, for many years, an important part in the treatment of diabetes It has been repeatedly observed that restriction can be carried only to a certain degree and only in certain cases can it be pushed very far since otherwise the body becomes flooded with acetone bodies This clinical observation is thus sharply opposed to the theoretical conclusions reached by Renshaw and Fairbrother

2 Of the various foodstuffs containing carbohydrate in large quantities, the most marked sugar-forming effect, but at the same time one strongly opposing the formation of acetone, is found in sugar and finely milled flours, the carbohydrates of which are early absorbed into the blood from the small intestine, whereas the large intestine, which is the abode of intestinal bacteria receives only a very insignificant remnant from which no considerable quantities of acetone bodies can be formed On the other hand, a less marked sugar-forming effect with a greater tendency to acetone formation is observed in foods which contain carbohydrates in a not easily absorbable form for which reason a considerable portion of them reach the large intestine the seat of bacterial activity To this class belong graham bread and many of the vegetables In moderately severe cases of diabetes we can keep down the acetone by generous quantities of graham bread, although such bread offers rich nutrient material for *Amylobacter*

3 The digestion and assimilation of starch proceeds so rapidly that from the average amount of starch (about 80 gm) which diabetics consume daily, with excretion of acetone only a few grams enter the region of intestinal bacteria Since under especially favorable conditions, for 100 gm of starch only 9 gm of acetone is developed, it is evident that only a few decigrams can be formed for *Amylobacter* from the remnants However, in more severe types of diabetes the body excretes from 50 to 80 gm or even 100 gm of acetone bodies, daily, and the quantity commonly increases in proportion as the supply of starch is reduced The theory of the British investigators thus encounters unsolvable quantitative difficulties

4 In the presence of diarrhea, when starch, etc, reaches the region of intestinal bacterial flora much more quickly than usual the excretion by the diabetic of sugar and more particularly acetone will generally be lessened, whereas, according to the theory of the British writers, one would rather expect an increase On the other hand it seems very probable that in the acetone excretion of infants with diarrhea (without simultaneous excretion of sugar no diabetes) *Amylobacter* may possibly play a very important part If this should be confirmed, our English colleagues have made a very important discovery in the field of pediatrics

5 The prospects of getting at intestinal bacteria by means of disinfectants or by the introduction of antagonistic bacteria are very slight All the experiments conducted thus far some of which were carried out on a large scale in intestinal infections of various kinds, have failed of their purpose Even the Metchnikoff method, which seemed to have the best theoretical foundation (lactobacillin), accomplished only a very small part of what it was expected to accomplish, ten or twenty years ago Only the withdrawal of nutrients that favor the growth of definite groups of bacteria has proved of value and this is the basis of the modern therapy of intestinal catarrh But the method is no

applicable to *Amylobacter* since we must bear in mind that the withdrawal of carbohydrates favors the formation of acetone in diabetics As regards the statement of the writers that by mixing other bacteria with *Amylobacter* the latter's acetone-forming power is lessened, that is only what would naturally be expected In the large intestine, there are not only ferments (diastase) but also other bacteria that attack the starch-containing material and its cleavage products leaving for *Amylobacter* only a portion of the food that reaches that region

6 That infections may cause diabetes is generally assumed The causation is ascribed to a toxic injury of the pancreas with resulting impairment of its secretion Similar toxic injuries of other organs are associated with infectious diseases, for example, the kidneys, the heart muscle and the nerves

It becomes evident from the foregoing that von Noorden takes a very skeptical attitude toward the hypothesis of the English investigators

Marriages

GEORGE MARSHALL LYON, Huntington W Va, to Miss Virginia Berkley Sutherland of Washington, D C, at Elkins W Va, June 24

FRANCIS D ELLIS, formerly of Brooklyn to Miss Carolyn A Welles of Hartford, Conn, at Mahableshwur India, April 5

JOHN GILBERT NULL, San Carlos Calif to Mrs Jeannette Irene Glackin of San Francisco, at San Jose, June 21

ORA C STRICKLER, New Ulm, Minn, to Miss Carrie E Purdy of Grand Rapids, Mich, in Chicago, May 6

GEORGE BEATTY BURWELL, Renfrew, Ont Canada, to Miss De Vee Oliphant of Cedar Rapids, Iowa, June 15

JOHN EDWARD TYLER Worcester, Mass, to Miss Frances Mary Slade of Roland Park Baltimore, June 28

ROBERT FRITZ TOBIAS JAENICHEN, Detroit to Miss Dorothy Thompson Longstreet of Saginaw, Mich June 22

ROBERT MARTIN GRIER Pleasantville N J, to Miss Virginia McCleavy of Harrington Del June 24

ALBERT FRANKLIN SHRIER Reisterstown, Md to Miss Estelle R Weiss at Elizabeth, N J June 7

WENDELL LANPHEAR DOWNING LeMars Iowa, to Miss Marion Klenk of Easton Minn June 22

FRANK L KRAMPERT, Omaha, to Miss Grace Drinnen of Columbus, Neb, in Omaha, May 30

HOSIE FRANK MAGEE Jackson Miss to Miss Jim Haley of Crystal Springs Miss June 28

ROWLAND FOREMAN WEBB to Miss Lois Mary Lillie both of Grand Rapids Mich recently

FELIX REVIELLE BRUNOT New Orleans to Miss Mary Bankerd Wagner of Pittsburgh June 9

HARLEY N GOULD Wake Forest N C to Miss Mary Raymond of New Orleans June 9

CHARLES MICHAEL COLLINS to Mrs Mattie M Coady both of Providence, R I June 21

KARL DOEGE Marshfield Wis, to Miss Helen Ramsey of Rock Rapids, Iowa June 11

WILLIAM ELBERT FARIS to Miss Martha Ann Law, both of Birmingham, Ala, June 30

ALBERT S HOHEB to Miss Katherine Augusta Rader, both of Baltimore, June 29

OTTO JOHN SEIFERT to Mrs Hedwig Henle both of New Ulm Minn, May 15

CLARENCE E RICE, Odell Neb to Miss Irene Dredla Crete, Neb, May 6

ARTHUR MAX KOHN Detroit to Miss Rose Simon of Chicago June 25

WALTER J CONNELL to Miss Lucy Riggs both of Dubuque Iowa June 22

HERMAN BICK to Miss Belle Bogen both of New York June 4

Deaths

Ernest Keys Cullen ⊕ Detroit, University of Toronto Faculty of Medicine Toronto, Canada, 1903, professor of gynecology, Detroit College of Medicine and Surgery, died July 5, from uncontrollable hemorrhage from ruptured varicose veins of the esophagus Dr Cullen a brother of Dr Thomas Cullen Baltimore was born in Belleville, Ontario May 14, 1878 Following his graduation he took three years graduate work at Johns Hopkins Hospital, Baltimore, and served his internship at the Toronto General Hospital He later entered Dr Howard A Kelly's service at the Johns Hopkins Hospital and afterward became resident gynecologist About 1912 he moved to Detroit and served as gynecologist to the City of Detroit Receiving Hospital the Harper Hospital and St Mary's Hospital Dr Cullen served during the World War with the Harper Hospital Unit, and was honorably discharged in 1919 with the rank of major He was a member of the Detroit Surgical Society and of the American Association of Pathologists and Bacteriologists

John Stanton Blackmar ⊕ Norwich, Conn, Columbia University College of Physicians and Surgeons New York, 1898, veteran of the Spanish-American War, captain in the M C U S Army during the World War, president and formerly secretary of the New London County Medical Association, member of the city council on the staff of the William W Backus Hospital died, June 24, aged 47, from angina pectoris

George E Hyde ⊕ Provo Utah University of California Medical School San Francisco 1895, superintendent of the State Mental Hospital at Provo since 1916, formerly president of the state board of health of Idaho for two years, and superintendent of the Idaho State Mental Hospital died, June 22 aged 57 at a hospital in Salt Lake City, following an appendectomy

Howell Shoener Zulick, Philadelphia, Medico-Chirurgical College of Philadelphia 1909, member of the Medical Society of the State of Pennsylvania, clinical professor of dermatology at the University of Pennsylvania lecturer on dermatology at Temple University was found dead in his chair, June 23 aged 39 from heart disease

Frederick Augustus Rand, Parrsboro N S, Medical Department of the University of the City of New York 1885 for thirty years county coroner and for six years chief magistrate of Parrsboro died April 25, aged 66, from heart disease following overexertion

Charles William Cullen, Cincinnati, Medical College of Ohio Cincinnati 1900 served in the M C U S Army, also a civil engineer superintendent of the Ohio Budget Commission member of the board of education, died recently in Denver aged 46

Charles Washington Bray ⊕ Portland, Me, College of Physicians and Surgeons in the City of New York 1874 formerly on the staffs of the Maine Eye and Ear Infirmary and the St Barnabas Hospital, died, June 22 aged 71, from heart disease

Charles Douglas ⊕ Detroit University of Toronto Faculty of Medicine Toronto Ont Can 1864 emeritus professor of pediatrics at the Detroit College of Medicine and Surgery, consulting physician at the Harper Hospital, died May 26 aged 78

Edward Dyer Ager, Antioch Calif Cooper Medical College San Francisco 1897 served for several years as surgeon in the M C U S Army and also during the world War died June 30 aged 46 at the Weimer Hospital at Martinez Calif

Sidney Worth, San Francisco New York Homeopathic Medical College New York 1874 formerly professor of pediatrics at Hahnemann Medical College of the Pacific San Francisco died May 20 aged 76 from heart disease

Robert Lloyd Williams ⊕ Statesan Wis Jefferson Medical College Philadelphia 1906 superintendent of the Wisconsin State Tuberculosis Sanatorium aged 41 was killed June 25 at Cleveland Ohio when struck by a street car

Mary Virginia McCune Rossa ⊕ Martinsburg W Va Woman's Medical College of Pennsylvania, Philadelphia 1895 proprietor and superintendent of the Shenandoah Valley Sanatorium, died suddenly May 15 aged 63

Irving I Sternman, Richmond Hill N Y, University and Bellevue Hospital Medical College New York 1921, on the

⊕ Indicates Fellow of the American Medical Association

staff of the St John's Hospital, Long Island City, died, June 28, aged 27, from bronchopneumonia

Harvey Hinchman Pettry ⊕ Colcord, W Va , Maryland Medical College, Baltimore, 1905, died, June 20, aged 53, from gunshot wounds received when a pistol carried in his holster accidently exploded

Thomas Caruth Dunn, Fountain Run, Ky , Medical Department, University of Tennessee, Nashville, 1889 member of the Kentucky State Medical Association, died, June 8, aged 62, from arteriosclerosis

George Wright, Glasgow, Scotland Trinity Medical College, Toronto Ont , Can , 1890 resident of Michigan, U S A , from 1898 to 1915, died, June 20, aged 65 from heart disease following influenza

William Jacob Haymaker, Export, Pa , Jefferson Medical College Philadelphia 1890, member of the Medical Society of the State of Pennsylvania, died, June 21, aged 57, following a long illness

Edward Payson Stimson ⊕ Tiverton, R I Dartmouth Medical School, Hanover, N H 1874, for several years medical examiner at Tiverton, died, July 5, aged 73, from heart disease

Charles H Ludwig, Chicago, Hahnemann Medical College and Hospital of Chicago 1875 practitioner in Chicago for more than forty years died, July 7, aged 71 from carcinoma of the rectum

John Smiele Turner, Monticello Ga , McGill University Faculty of Medicine Montreal, Canada, 1910, died June 6, aged 42, at Washington Park, Ga from chronic nephritis

William Edmund St Michael Raw, Hamilton Ont Can , M R C S England L R C P London and L S A London 1885, died, April 15, aged 62, following a long illness

Samuel Budd Page Knox, Santa Barbara, Calif , University of Pennsylvania Medical Department, Philadelphia, 1866, died suddenly June 30, aged 84, from heart disease

James Webster Shannon, San Diego Calif , Victoria University, Manchester, England, 1890, L R C P London and M R C S, England, 1890, died, June 19, aged 55

Calvin A Bonner, Dayton, Ohio, Medical College of Ohio Cincinnati, 1890, for several years city health officer, died June 23, aged 64, following a long illness

Robert Ormsby, Manhattan N Y , Medical Department of the University of the City of New York, 1876, died, June 9, at Flushing, aged 67, from heart disease

James H Proudlock, Danbury, Wis , College of Physicians and Surgeons, Keokuk, Iowa, 1887, died, May 24 aged 59, at the St Luke's Hospital, Duluth, Minn

David Winslow Hunt, Glendale, Calif , University of Michigan Medical School, Ann Arbor 1871, died, June 25, aged 76 from cerebral hemorrhage

George Sheldon Bingham, Hamilton, Ont , Victor University Medical Department, Toronto, Ont , Can , 1881, died, April 6, aged 64

Paul J Faber ⊕ Chicago, Chicago Medical College, 1890, died, July 7, aged 55 at the Augustana Hospital, from carcinoma of the liver

William Riley Jamison, Sacramento, Calif , California Medical College, San Francisco, 1895, died, June 30, at Watsonville, aged 64

James Harper, Gimlet, Ky , Barnes Medical College St Louis, 1899, formerly health officer of Elliott County , died April 1, aged 57

Harry Lee Courtright ⊕ Keokuk, Iowa, Keokuk Medical College, 1901, died, June 24, aged 45, following an operation

William H Raasch ⊕ Chicago, Chicago College of Medicine and Surgery, 1913, died, July 10, aged 35 from nephritis

Ralph H Williams, Bosworth, Mo , Missouri Medical College, St Louis, 1881, died, June 21 aged 63, from peritonitis

Edward Graeff West ⊕ Boston, Medical School of Harvard University, Boston, 1880, died, June 10, aged 66

George W Sellers, Mount Moriah, Mo , American Medical College St Louis, 1878, died, June 18, aged 80

John M Crenshaw, Liberty, S C , Atlanta Medical College, Atlanta Ga , 1882, died, June 2, aged 65

Charles Newton, Floral, Ark (licensed, Arkansas, 1903), died recently, aged 77, from cystitis

Gustav Jack, *Waco, Texas,* University of Zurich, Switzerland, 1884, died, June 14, aged 59

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Madam LeRoy's Regulative Pills—The LeRoy Chemical Co Baltimore, shipped in January, 1919, a quantity of "Madam LeRoy's Regulative Pills" which were misbranded The federal chemists reported that analysis showed the pills to contain aloes with traces of pennyroyal and tansy The product was labeled in part

A Menstrual Regulative ... an excellent formula for regulating the menstrual flow We have been selling them for many years with the *most satisfactory results* ... for suppressed or scanty menses ... will assist in restoring a normal condition '

These and similar claims were declared false and fraudulent and in May 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment No 9854 issued Feb 21, 1922*]

Hooker's Cough and Croup Syrup—Charles B Kingsley, Northampton, Mass , shipped in August 1919, a quantity of Dr Hooker's Cough and Croup Syrup," which was misbranded The federal chemists reported that analysis showed the stuff to contain oil of anise, oil of wintergreen, alcohol, sugar, water, bloodroot and a balsam, probably tolu The preparation was falsely and fraudulently represented as an effective remedy for croup, catarrh, whooping cough, asthma incipient consumption and all diseases of the blood and lungs In June, 1921, Charles B Kingsley entered a plea of *nolo contendere* and the court ordered the information placed on file The government report does not explain why this individual was let off without even a fine—[*Notice of Judgment No 9851, issued Feb 21 1922*]

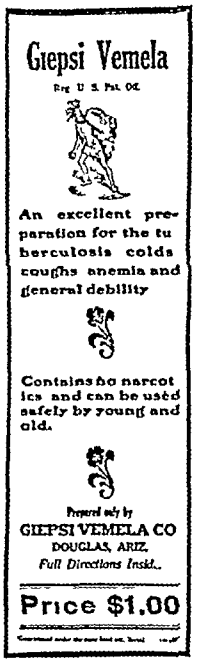
Naptholene—In May, 1920 Dr E E Sonnanstine, La Junta Colo shipped from Colorado to Missouri a quantity of Naptholene which was misbranded The Bureau of Chemistry reported that analysis showed the stuff to contain gasoline kerosene and a small quantity of resin of red pepper It was sold under the claim that it was a cure for rheumatism diphtheria, diabetes, appendicitis, toothache, all skin diseases, piles, Bright's disease and a number of other conditions These claims were declared false and fraudulent and in February 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment No 9856, issued Feb 21, 1922*]

Homosan—The International Toilet Co Brooklyn, N Y, shipped during 1920 and 1921 from New York to Porto Rico a quantity of Homosan' which was misbranded The federal chemists reported that analysis showed it to consist of tablets containing a trace of strychnin The preparation was sold as a remedy for weakness of the testicles, atrophy of the prostate gland, spermatorrhea and impotence," and was recommended as an aphrodisiac These claims were declared false and fraudulent and, in May and August, respectively, 1921, judgments of condemnation and forfeiture were entered and the court ordered that the product be destroyed—[*Notice of Judgment No 9875, issued Feb 21, 1922*]

Haskin's Cough Medicine—The Haskin Medicine Co Binghamton, N Y, shipped in January, 1921, a quantity of 'Haskin's Cough Medicine" which was misbranded *Analysis by*

the Bureau of Chemistry showed that this preparation was a dark brown liquid carrying tar, chloroform sugar and water It was falsely and fraudulently recommended as a cure for all diseases of the throat and lungs, consumption, pneumonia, croup, asthma, etc In June, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9877, issued Feb 21, 1922*]

Apollo Brand Sexual Pills—The S Pfeiffer Mfg Co, St Louis, Mo, shipped in November, 1920, a quantity of "Apollo Brand Sexual Pills' which were misbranded The Bureau of Chemistry reported that analysis showed these pills to contain extracts of nux vomica and damiana and phosphorus The aphrodisiac effect claimed by inference for this product in the name was declared by the government to be false and fraudulent and in August, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9894, issued Feb 21, 1922*]



Giepsi Vemela—The Giepsi Vemela Co, Douglas Ariz shipped a quantity of this product in February, 1921, which the federal authorities charge was misbranded The Bureau of Chemistry reported that analysis showed the preparation to consist of vegetable extractives, sugar and water The stuff was falsely and fraudulently recommended as an effective treatment and cure for tuberculosis, sore throat, weak stomach tumors, ulcers, buboes and various other conditions In October, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 10036, issued May, 1922*]

McMullin's Tonic—In the early part of 1921 the Tilden McMullin Co, Sedalia, Mo, shipped from Missouri to Colorado a quantity of 'McMullin's Tonic' which was misbranded The Bureau of Chemistry reported that analysis showed this stuff to contain alcohol glycerin iodids carbolic acid and water The stuff was falsely and fraudulently labeled as a relief for consumption asthma, catarrh, bronchitis, etc In August, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9886, issued Feb 21, 1922*]

Dupree's French Specific Pills—The United Drug Exchange, New York City shipped in October, 1920 and May, 1921 a quantity of 'Prof Dupree's French Specific Pills" which were misbranded The chemists of the Bureau of Chemistry reported that analysis showed the product to contain aloes iron sulphate, and a trace of alkaloids with indications of cotton-root bark and tansy The stuff was sold 'For use in the suppression of irregularities of the menses" and false and fraudulent claims regarding the therapeutic effects were made for it In August, 1921 judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9888, issued Feb 21 1922*]

Shores Lung Balsam and Shores Mountain Oil Liniment—In March 1920 the Shores-Mueller Co Cedar Rapids Iowa, shipped a quantity of Shores Lung Balsam" and "Shores Mountain Oil Liniment both of which were misbranded The federal chemists reported that the 'Lung Balsam' contained pine tar, ammonium chlorid a salicylate chloroform, glycerin, sugar and water It was falsely and fraudulently represented as an effective treatment and cure for sore lungs, bronchitis, whooping cough, croup and throat trouble

The "Mountain Oil Liniment' according to the federal chemists, contained cajeput wintergreen, sassafras, cedar oils camphor, ammonia, borax, washing soda, plant extractives, capsicum oleoresin, alcohol and water This was falsely and fraudulently represented as an effective treatment and cure for colds, cramps, colic, cholera morbus, diarrhea, rheumatism indigestion, sore throat, mumps and other things In addition to these false and fraudulent claims the product was further misbranded in that the amount of alcohol contained therein was not correctly stated In October 1921, a plea of guilty was entered on behalf of the Shores-Mueller Co and the court imposed a fine of $50 and costs —[*Notice of Judgment No 10044, issued May 1922*]

Montauk Star Brand Pills—A quantity of "Montauk Star Brand Pills,' offered for sale in the District of Columbia in July 1921 was charged by the federal officials with being misbranded The Bureau of Chemistry reported that analysis showed the pills to contain iron sulphate, aloes and a trace of strychnin The preparation was sold under the claim that it was For use in the suppression of irregularities of the menses' These and similar claims were declared false and fraudulent and in October 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9908, issued March 6 1922*]

Princess Brand Pennyroyal, Tansy and Cotton Root Bark Compound Pills—These pills were being offered for sale in Washington D C in July 1921 ,The government chemists reported that analysis showed the pills to contain aloes They were falsely and fraudulently labeled as "A Safe, Reliable Powerful Yet Harmless, Emmenagogue' In October 1921 judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment No 9919, issued March 6 1922*]

Shores Sarsaparilla—In October, 1920 the Shores-Mueller Co Cedar Rapids Iowa shipped a quantity of this product which was misbranded The federal chemists reported that Shores Sarsaparilla contained extracts of plant drugs, including a laxative a salicylate a small amount of ammonium chlorid a trace of alcohol, glycerin and water The stuff was falsely and fraudulently represented as an effective cure for catarrh rheumatism boils blood and skin diseases, bad breath eczema general debility, female weakness etc In October 1921 a plea of guilty was entered by the Shores-Mueller Co and the concern was fined $20 and costs —[*Notice of Judgment No 10048, issued May, 1922*]

Correspondence

A DEFENSE OF GROUP MEDICINE

To the Editor —The communication by Dr Wilson on the disadvantages and limitations of clinic or group medicine in THE JOURNAL June 24 provoked in me a decided reaction Much of the criticism he offered is true but as he said can be applied with equal justice to the consultant and to the general practitioner Other criticisms of group practice need only to be recognized to be obviated A properly organized and managed modern clinic in a small city is far from being a "soulless corporation' Its members are conscientious physicians with as definite a clientele as the so called family physician What is the evidence that the average consultant or even general practitioner takes into account the individual's psychologic reaction any more definitely than does a member of a small group in a small city?

The question whether specialists in the large cities and medical centers should unite into groups is a debatable one In cities ranging from 5 000 to 50 000 inhabitants however—and there are 1 275 of these in the United States—the situa-

tion is entirely different In these smaller communities it is almost impossible for one to confine oneself strictly to a specialty unless one is in a group or in some sort of partnership General practitioners are everywhere clipping turbinates, removing tonsils, doing cesarean sections and performing every minor and major operation they think they can get away with With the optometrists competing strongly for the refraction work it is rare to find even an eye, ear, nose and throat specialist in the smaller cities who is not also engaging in general practice It is manifestly impossible for an internist a urologist, a pediatrician, a neurologist, a radiologist or even a general surgeon to make a living in most of these cities Patients with conditions requiring expert attention are thus often either improperly treated, or are forced to make long, expensive journeys to specialists in distant cities

On the other hand it is possible, and has been shown to be feasible for a group of physicians to unite and confine themselves strictly to their specialties, and bring scientific medicine to these smaller communities A well-organized clinic has a complete library and a well equipped laboratory with roentgen ray and other diagnostic apparatus which it is almost impossible for one man to own or operate Scientific clinical and research work can be done at such a clinic as well as at the leading medical centers If even 1,000 of these cities should contain such a clinic think of the rapid advance that would be made in the practical application of scientific medicine

The concept of the health center elaborated by Billings and others is in many respects ideal, but like all ideals which require public cooperation is difficult of realization In addition, politics is likely to interfere at the most inopportune time, and in a day destroy or vitiate years of labor Furthermore, no room is made in this regime for the true specialist In fact, the temptation for the general practitioner to attempt everything would be even greater than at present It is generally recognized that municipal, county and private hospitals with the so-called open door policy of admitting all licensed practitioners, regular or irregular, to their wards and operating rooms have promoted the growth of the present day 'specialist in everything The case of the community hospital recently cited in THE JOURNAL in which all of the practicing physicians in the community were on the staff, and a rotating service was maintained whereby each physician was in charge of the surgical ward for a certain period every two years, and again was in charge of the medical ward for a like period, illustrates the pernicious possibilities of this plan

I would ask this question Given a community that can support five physicians is it better for each to attempt to do everything, or for the five to combine and each confine himself to the specialty for which he is best fitted?

JOHN W VISHER, M D, Twin Falls, Idaho

THE EDITIO MAGNA OF VESALIUS

To the Editor —Recently I had the fortune to secure a copy of 'Editio Magna" of Vesalius the 1543, Operinus, Basle Edition I believe the copy, which I have, is the finest in this country It belonged to Lancisi, and was given with his other books to the Library of The Holy Ghost in Rome in 1714 After that time the library was called 'The Bibliotecn Lancisiana," and the books were dispersed at the time of the Napoleonic Invasion of Italy I am anxious to communicate with others, who own copies of this edition, in order that a list and location of these books may be recorded

HORACE MANCHESTER BROWN, M D Milwaukee

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted on request

SPINAL AND CISTERN PUNCTURE IN DIAGNOSIS AND TREATMENT OF INTRACRANIAL HEMORRHAGE

To the Editor —Please describe the fundamental principles of the value of spinal and cistern puncture in the diagnosis and therapeutics of intracranial hemorrhage mentioned in an abstract (THE JOURNAL, May 20 p 1570)

J G BAJANDAS M D Coamo, P R

ANSWER —Spinal puncture has long been used in both the diagnosis and treatment of meningeal hemorrhage Obviously, no blood will find its way into the cerebrospinal fluid unless the hemorrhage is primarily meningeal or ventricular, or if it ruptures into the subarachnoid space or a ventricle If the hemorrhage is recent, red corpuscles will be found, if old, the fluid will be more or less straw-colored on account of the hemoglobin or its derivatives dissolved in it With an intracranial hemorrhage blood will be found earlier and in greater quantity by cistern puncture than by lumbar puncture The therapeutic value of lumbar puncture in intracranial hemorrhage especially of the traumatic variety, has been amply testified to Thus a French army surgeon, F Albert (*Lyon chirurgical* **15** 328 [March-April] 1918) said Lumbar puncture should have a place of honor in all craniocerebral surgical establishments In all doubtful cases of skull fracture or meningeal hemorrhage it settles the diagnosis All cases of concussion and cerebral hypertension are accompanied by hypersecretion of cerebrospinal fluid Lumbar puncture is the treatment, counteracting at one time both cause and effect It is the only efficient treatment of basal fracture If this observer had been familiar with cistern puncture even the French language probably would hardly have sufficed to express his enthusiasm

Cistern puncture is rather new, and so far has principally been used in cases of spinal subarachnoid block and for injections of arsphenamized serum in paresis The case reported by Ruggles and Wyatt (*Boston M & S J* **186** 572 [April 27] 1922), to which our correspondent refers, demonstrates that bloody fluid may be readily obtained by cistern puncture in a case of cerebral hemorrhage when for some reason or other lumbar puncture gives a dry tap" That no block existed in this case was shown by the fact that salt solution injected through the spinal puncture needle caused the cistern pressure to rise To our knowledge, this is the only case of hemorrhage reported in which the combined puncture has been used, and with apparent success, for the purpose of flushing out the cistern and subarachnoid space, but it has been used with benefit in cases of meningitis

SACHS ANTIGEN

To the Editor —In Queries and Minor Notes it was stated in reply to Dr Watson's question (THE JOURNAL May 20 1922 p 1558) that in Dold's test a cholesterolized antigen is used prepared according to Sachs method Will you describe this method and also how to secure this antigen?

GABRIEL RIGAU M D Yauco Porto Rico

ANSWER —The antigen is thus prepared A normal beef heart is freed from fat, pericardium and large blood vessels, and then ground up fine in a meat chopper The minced heart muscle is now mixed with five volumes of 95 per cent alcohol, and shaken vigorously in a shaking machine four or five hours After standing at room temperature over night, it is filtered through ordinary filter paper, and placed in the icebox for at least two days, at the end of this time it is filtered again through filter paper to remove any precipitate that formed while in the icebox It is now ready, and is stored at room temperature Before use in the test it must be diluted with two volumes of alcohol, cholesterinized by the addition of from 0 045 to 0 06 per cent of a 1 per cent alcoholic solution of cholesterol, and titrated against a known standard antigen

The Sachs-Georgi test for syphilis was discussed by Parker and Haigh in the *Archives of Dermatology and Syphilology* 4 67 (July) 1921

OSGOOD SCHLATTER DISEASE

To the Editor—Please describe the Osgood Schlatter disease of the tuberosity of the tibia

MARK HOUSTON, M D Urbana Ohio

ANSWER—Osgood-Schlatter disease (Schlatter's disease, Schlatter's spram) is a condition of partial functional incapacity, due to thickening separation or partial separation of the tibial tuberosity The etiology and pathology of the disease are still obscure Some think that the condition is a dystrophy, others that it is due to inflammation Connell believes that the disease is a purely traumatic condition, most common in those under 17 years of age, imperfect union of the tibial tubercles being a predisposing factor Since many cases are bilateral, and other muscular and ligamentous insertions may show periosteal thickening, DaCosta believes that the condition is probably systemic Müller says that Schlatter's disease is a symptom of a systemic pathologic condition that manifests itself in a tendency to spontaneous separation of the epiphyses, and infractions, and that it is connected with late rachitis

ADMINISTRATION OF TYPHOID VACCINE

To the Editor—1 It has been my custom to advise persons who have had typhoid fever not to take prophylactic typhoid vaccination on the assumption that they had as complete active immunity as they could develop I would appreciate information as to whether I am following the most accepted ideas on the subject

2 I would also like to know to what extent it is considered best to decrease the dosage of vaccine for little children and whether it is good practice not to give it at all to children under 2 years of age

SUBSCRIBER

ANSWER.—1 The immunity acquired by typhoid patients is usually good enough to make vaccination superfluous, provided the diagnosis has been correct If the vaccine is to be employed it is better to start with a small dosage

2 Chantemesse recommends that children be given four vaccinations with doses proportioned to the weight of the child For instance, a child weighing 35 kg should receive half the dose a child weighing 18 kg one quarter of the dose for adults The age under 2 years is not a contraindication but in these children the disease is comparatively rare and not severe

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

SOUTH DAKOTA Waubay July 18 Director Dr H R Kenaston Bonesteel

Wisconsin Reciprocity Report

Dr John M Dodd, secretary, Wisconsin State Board of Medical Examiners reports that at the special meeting held at Milwaukee, April 12, 1922, eight candidates were licensed by reciprocity Four candidates were licensed on government credentials The following colleges were represented

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Loyola University		(1921)	Illinois
Northwestern University	(1910)	(1921)	Illinois
Rush Medical College	(1921 2)		Illinois
University of Michigan Medical School		(1906)	Michigan
University of Minnesota		(1898)	Minnesota
Columbia University		(1919)	New York

College	ENDORSEMENT OF CREDENTIALS	Year Grad	Endorsement with
Hahnemann Med College and Hospital of Chicago		(1915)	U S Army
University of Illinois		(1913 2)	U S Army
Medical College of Virginia		(1917)	U S Army

District of Columbia January Examination

Dr Edgar P Copeland secretary District of Columbia Board of Medical Supervisors reports the oral and written examination held at Washington Jan 10, 1922 The examination covered 8 subjects and included 80 questions An average of 75 per cent was required to pass Of the 10 candidates examined 7 passed and 3 failed Three candidates were licensed by reciprocity The following colleges were represented

College	PASSED			Year Grad	Per Cent
Howard University	(1920)	77 2	85 7	(1921)	84 8
Harvard University				(1919)	93 6
University Med College of Kansas City	(1910)	80 7		(1921)	82 1 89 5

College	FAILED			Year Grad	Per Cent
Howard University	(1920)	68 3		(1921)	74 6
University of Minnesota				(1920)	74

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Illinois Medical College		(1900)	Mississippi
Jefferson Medical College		(1916)	Penna
Fort Worth School of Medicine		(1901)	Texas

Hawaii April Examination

Dr Guy C Milnor, secretary, *Hawaii Board of Medical* Examiners reports the written examination held at Honolulu April 11 13, 1922 The examination covered 11 subjects and included 55 questions An average of 75 per cent was required to pass Of the 3 candidates examined, 1 passed and 2 failed The following colleges were represented

College	PASSED	Year Grad	Per Cent
John A Creighton Medical College		(1917)	75

College	FAILED	Year Grad	Per Cent
College of Physicians and Surgeons San Francisco		(1901)	40
Atlanta School of Medicine		(1913)	70

Oklahoma April Examination

Dr J M Byrum, secretary, Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City April 11-12, 1922 The examination covered 12 subjects and included 120 questions An average of 75 per cent was required to pass Of the 4 candidates examined 3 passed and 1 failed Two candidates were granted reregistration licenses, and one candidate received a duplicate license Thirteen candidates were licensed by reciprocity One candidate was licensed on Navy credentials The following colleges were represented

College	PASSED	Year Grad	Per Cent
Bennett Medical College		(1913)	78
Tulane University		(1919)	83
University of West Tennessee		(1920)	75

College	FAILED	Year Grad	Per Cent
Meharry Medical College		(1921)	64

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
University of Arkansas		(1918)	Arkansas
Atlanta College of Physicians and Surgeons		(1913)	Texas
Atlanta Medical College		(1913)	Georgia
Louisville Hospital Medical College		(1900)	Arkansas
Tulane University	(1918) Texas	(1919)	Missouri
Ensworth Medical College	(1908) Kansas	(1910)	Nebraska
St Louis College of Physicians and Surgeons		(1911)	Arkansas
University Medical College of Kansas City		(1904)	Utah
Miami Medical College		(1899)	W Virginia
University of Tennessee	(1913)	(1914)	Arkansas

College	ENDORSEMENT OF CREDENTIALS	Year Grad	Endorsement with
Northwestern University		(1917)	U S Navy

The Drugless Cults in Germany—The *Munchener medizinische Wochenschrift* warns that the organized irregular practitioners have founded the Verband fur Volksheilkunde which is circulating petitions protesting against the proposed notification of venereal disease and compulsory treatment claiming that the public is being enslaved etc The charlatans are making every effort to combat this dreaded regulation as it will deprive them of their most fertile field of work and they are carrying on this agitation to bring pressure to bear on the legislators The communistic party in the reichstag is warning against the dangerous and selfseeking aims of the petition and is urging people not to sign it and the German Antiquackery Society is appealing to the medical and lay press to expose the true motive of the petition

Book Notices

SURGICAL AND GYNÆCOLOGICAL NURSING By Edward Mason Parker M D F A C S Surgeon to Providence Hospital, Washington D C, and Scott Dudley Breckinridge M D F A C S, Gynecologist to St Joseph s Hospital Lexington Kentucky Second edition Cloth Price $3 net Pp 425 with 134 illustrations Philadelphia J B Lippincott Company 1921

This book consists of six parts The first part is biologic, and summarizes bacteriology and wound infection The second part deals with surgical pathology and surgical nursing The third covers minor technic in surgical nursing, application of dressings and bandages, and an outline of the Carrel-Dakin technic In the fourth part the patient is considered, postures and the details of preparation and of observation are described The fifth part describes the operating room its contents personnel and technic There is a complete collection of photographs of instruments designed to enable the nurse to identify them The sixth is supplementary, the gynecology dispensary, emergencies, and an epitome of surgical and of gynecologic conditions are detailed The work is written in interesting style, it is accurate in all essentials, and covers in small space a wide field in a way sufficiently complete to supply the nurse not only with basic principles, but also with details

DER BALKEN EINE ANATOMISCH PHYSIOPATHOLOGISCHE UND KLINISCHE STUDIE Von Dr G Mingazzini O Professor an der Klinik fur Nervenkrankheiten der Kgl Universitat Rom Paper 160 marks Pp 212 with 84 illustrations Berlin Julius Springer 1922

This is No 28 of the neurologic monographs edited by Foerster and Wilmanns It is an ideal monograph, giving to the reader a clear and authoritative account of everything known about the anatomy embryology, physiology and pathology of the corpus callosum The author has devoted a great deal of his recognized investigative ability to the study of this important and conspicuous, yet rather neglected and mysterious, portion of the brain, which shares with the pineal gland the honor of having been considered several hundred years ago as the seat of the soul The most common lesions giving rise to clinical syndromes are complete or partial defect, tumors, vascular lesions, and a peculiar type of degeneration encountered in alcoholics

ON MODERN METHODS OF TREATING FRACTURES INCLUDING THE JACKSONIAN PRIZE ESSAY ON BONE GRAFTING By Ernest W Hey Groves M S M D B Sc Surgeon to the Bristol General Hospital Second edition Cloth Price $8 Pp 435 with 296 illustrations New York William Wood & Co 1922

The general lack among clinicians of an accurate conception of pathologic changes in the bones, the difference of opinion as to treatment still existing among competent surgeons, and the all too large percentage of bad results following the treatment of fractures serve to make such a monograph as this a valuable contribution to bone literature Bone" literature rather than "fracture" literature is employed because of the broadness of the scope of the work The first part is devoted to the general principles of massage, mobilization and extension The greater part of the remainder is devoted to operative methods of treatment and the experimental basis of this treatment There is a very good summary of the more important contributions to the literature of experimental research on bone The author has added the results of a considerable amount of experimental work of his own, and gives a clear-cut presentation of the status of bone regeneration and the living graft The only criticism that may be offered, if it may be so designated, is the apparent inclination of the author to the operative rather than to the nonoperative side This, of course, we recognize as less of a failing when practiced by a competent man Nevertheless, for the great majority who are not competent, this is bad teaching, because bad results following operative exposure of a fracture are far more disastrous than when such exposure has not been made and because bone surgery is technically difficult Sepsis, against which every writer on the subject warns, is far more likely to occur in an open fracture than in a laparotomy wound Many may contest the statement of the author that such sepsis is "probably postoperative in its origin" Nevertheless, the text is clearly the work of a master, it is interestingly written, and the illustrations are many and beautiful

THE STOMACH AND ABDOMEN FROM THE PHYSICIAN S STANDPOINT By William Russell M D LL D Consulting Physician Royal Infirmary Edinburgh Cloth Price $4 Pp 329 with 35 illustrations New York William Wood & Company 1921

At a time when many are looking for short cuts to diagnosis and the burden of proof is laid at the door of the clinical or roentgen-ray laboratories, it is refreshing to have brought back to us in a clear manner and in delightful and simple English the real value that is obtained in carefully eliciting a history and as carefully making a physical examination Dr Russell believes it to be the duty of the physician, as distinguished from the surgeon, to assume the responsibility of diagnosis He decries the readiness with which exploratory operations are resorted to, and considers them the bane of differential diagnosis A rather novel explanation of gastric disturbances is given All center about gastric chemism Disordered or pathologic states are divided into two classes, determined by increased or decreased hydrochloric acid secretion These conditions are considered as clinical entities Thus, the author speaks of an acid dyscrasia of the stomach, of which peptic ulcer is a complication or sequel In fact, the failure to recognize this dyscrasia is the reason for the diagnosis of ulcer being made so frequently Numerous carefully elicited histories which, in the light of our present knowledge, assisted by roentgen ray examination, would lead to a diagnosis of ulcer, in the author s opinion, point to simple hyperchlorhydria Only in the later chapters of the book is the prominence given to roentgen-ray examination that it deserves Ideas are submitted which seem hardly in accord with modern views, such as sudden relaxation of spasm of the pylorus as a cause of gastric cramps There are scarcely any references to recent work in gastric physiology There are chapters on diseases of the stomach and intestines, spleen, liver, jaundice and the kidney Differential diagnosis is considered very carefully Many citations of history records from Dr Russell's personal experience are given To each are appended paragraphs on diagnosis and treatment The impression gained is that this little volume would prove to be of considerably more value to the beginner than to one with the mature judgment of years of practice

LEHRBUCH DER SPEZIELLEN PSYCHIATRIE FÜR STUDIERENDE UND AERZTE Von Professor Dr Alexander Pilcz Sixth edition Paper Price 80 marks Pp 315 Leipsic Franz Deuticke 1922

Written specifically for students and practitioners, this textbook is limited strictly to a description of the clinical varieties of mental disease and defect General symptomatology, pathogenesis and dynamic psychology have been intentionally omitted, on the assumption that they are of no practical value, and are of interest only to the specialist Whatever one may think of this view, there can be no hesitation in asserting that the task undertaken has been admirably carried out The descriptions are concise, and yet extraordinarily full, the language and style are simple, but vividly real, and there is an entire absence of dry monotonous technicality, which so often makes this subject the bane of the student's existence Few headings are used, each named disorder being considered under symptoms psychic and somatic, course, prognosis, differential diagnosis, etiology, and therapy Pathologic anatomy is described briefly when anything is known Treatment is accorded perhaps more than its usual quota of space, a special chapter being added on the use of drugs, and is thoroughly up to date, with the exception that there is no mention of occupational therapy or psychotherapy War experiences are quoted freely, and there is a short chapter on hypnosis The descriptions of the psychopathic states, especially "moral insanity," are strikingly good, and both here and elsewhere the medicolegal considerations are eminently practical and useful

Medicolegal

Negligent Treatment of Fracture

(Petefish v Morrison (Kan) 205 Pac R 651)

The Supreme Court of Kansas, in affirming a judgment for damages in favor of the plaintiff, but without stating the amount of the judgment, says that the plaintiff's right leg was broken near the ankle, and the defendant was called to treat the injury He dressed the broken limb, braced it with a splint, and propped the foot straight forward with a pillow The weight of the foot, however, caused it to turn outward, and in that position the fracture healed, so that thereafter as the plaintiff walked her right foot turned outward at an angle of nearly 90 degrees An orthopedic surgeon testified that it is elementary in setting fractures that the limb must be placed in a normal position, immobilized and held firmly by some method in its normal position until the bones have an opportunity to mend, that if the foot was rotated outward that was sufficient notice that the foot should be put back in a normal position and held there, independently of whether a roentgenogram was available or not Many witnesses testified for the plaintiff that this precaution to keep the foot in position was not taken, and that it was permitted to lie over and outward to the right The defendant s visits to his patient continued off and on for about three weeks before he discovered that her foot was everted, by which time the cartilaginous substance had so far formed that the foot could only have been straightened by more pain and suffering, while the record showed that the plaintiff had certainly borne enough of that, partly owing to the wrong position of her foot while the fracture was healing For the defendant, there was evidence that the foot was correctly placed and the fracture properly treated, and it was argued for him that he undertook to render limited services only, that he told the plaintiff she should go to a hospital where a roentgenogram of her injury could be taken and where she would receive more attention, that her accident occurred during an epidemic of influenza, that he had so many patients he was going night and day, sleeping only three or four hours in the twenty-four, at the time, and that the eversion of the foot was caused by the plaintiff's own negligence But the disputed facts were all disposed of by the jury's verdict, and, no error being found in the record of the trial, the judgment for the plaintiff was affirmed

Evidence Admissible to Show Defendant was a Moron

(People v Joyce (N Y) 134 N E R 836)

The Court of Appeals of New York in reversing a judgment of conviction and ordering a new trial in this homicide case, says that a number of officers and detectives of the police force testified as witnesses for the prosecution as to statements alleged to have been made by the defendant Counsel for the defendant, in his opening of the case to the jury, stated that he would show that the defendant had a mind of a youth of 9 or 10 years The district attorney objected on the ground that it was not a matter of defense in the case as to the condition of the defendant s mind, and the trial judge said, "He has not claimed to be insane" Counsel then went on to state that it would be proved by competent evidence that the defendant's mentality was such that he would yield if any one who had a stronger mind insisted talked well pleaded or threatened But counsel having thus assured the jury that he would establish that the defendant had the mind of a child from which he would argue that, even assuming that the defendant made the statements attributed to him such statements were the result of suggestion and lack of comprehension on his part of what he was stating or the result of an illusion that he was a hero was denied the privilege of making any proof of the defendant's mental condition A specialist in nervous and mental diseases was called as a witness Having testified as to his experience, and that he had examined the defendant in the county jail he was asked to tell the condition in which he found the defendant The district attorney objected to the question, and the judge stated that he did not understand the theory, that there was no defense of insanity interposed Counsel then explained that he intended to prove by the physician that the defendant's mind was such that judging from the test he had the mind of a boy between the ages of 10 and 12 years, and that, this being so, his mind was easily influenced by people who had stronger minds, and that by beating him and talking to him, the officers would be able to get his mind in such a condition that he would not know what he was saying, or, if he did say something it would not be true The judge's answer was that if the defendant did not positively assert that he made no such statement to the officers at all, if he admitted that he had told the officers these things, and that he was either tweedled, tracked, or tricked into it, that would be relevant testimony But he had said that he did not make any such statement, and the only theory possible was that the testimony which he himself gave was false, which the court would not want to assume However, the court of appeals holds that the trial justice was in error in suggesting that the defendant was required to file a special plea of insanity or lack of mentality as a prerequisite to the introduction of evidence of insanity or lack of mentality If the defendant was what is known in medical jurisprudence as moron, that is, one whose intellectual development proceeds normally up to about the eighth year of age, and then arrested, never exceeds that of a normal child of about 12 years evidence of such fact was material for consideration by the jury The fact that the defendant denied the statements testified to by the officers was not a legitimate reason for a rejection of the evidence Such denial would not bar him from offering such proof or his counsel from arguing that in the event he made such statements he was not of sufficient mentality to understand what he was stating or that his mind was controlled by a superior force or intellect A question put to the defendant's mother as to whether he had a fall when he was a little boy was likewise competent, and an answer thereto should have been permitted

Summary Quarantine and the Writ of Habeas Corpus

(Ex parte Casells (Mont) 204 Pac R 564)

This was an application in chambers before Chief Justice Brantly of the Supreme Court of Montana, for a writ of habeas corpus In discharging the writ and remanding the complainant to the custody of the sheriff, the chief justice says that there is perhaps, no authority to be found at this late day which denies that the legislature, under its police power, may enact laws authorizing the establishment of quarantine regulations and requiring the detention of persons affected with contagious diseases dangerous to the public health, without resort to a preliminary judicial proceeding to determine the character of the disease and the facts constituting the danger to public health Under the Montana statute involved in this case the proper health officer may issue his warrant directing the arrest, without notice, of any person reasonably suspected of having a communicable disease and his detention for the time being and until the existence and character of the disease can be determined, and in case his course of conduct or condition is such in the judgment of the health officer, as to render it necessary in order to protect the public health, he may isolate the person in question until he recovers from the disease or until he may be released without further danger to the public If however after his arrest, the person challenges the right of the authorities to continue his detention he is entitled to have it legally inquired into on habeas corpus

The existence of the power of the health officer to detain any one rests on the existence of the facts making such detention necessary The law does not deprive any citizen of the right to be heard on this question, but he is not entitled to a hearing in the first instance that is to say, before he is taken for quarantine The fourteenth amendment to the constitution of the United States and the sections of the constitution of the state of Montana requiring due process of law have no application to this class of cases Counsel for the state insisted that the finding of the county health officer in such a case, declaring that the detained citizen is

afflicted with a contagious disease, and is therefore dangerous to the public health, is conclusive and not subject to review by the courts There is some conflict of authority on this subject, but the great weight of it supports the rule stated the law does not tolerate the arrest and detention of any citizen without the right to challenge the existence of the facts on which he is held

The complainant in this case was held by the sheriff under an order of the health officer of the city and county of Missoula, made under the quarantine regulations established by the state board of health, under Chapter 106 of the Laws of the Sixteenth Legislative Assembly, on the ground that according to the information of the health officer, she was affected with gonorrhea a disease declared by the statute to be contagious communicable and therefore dangerous to the public health She applied for a writ of habeas corpus to obtain her release on the grounds that she was not granted a judicial hearing prior to the time she was taken and detained by the sheriff and that the facts did not exist showing that she was affected with the disease and so conducted herself as to be dangerous to the public health The facts introduced at the hearing established clearly that she was affected with gonorrhea This was ascertained by scientific means by the bacteriologist employed by the state board of health, on the application of the health officer The only uncertainty was whether, in the condition she was in, she would, in fact, be dangerous to the health of the community in which she lived if she were allowed to go at large The testimony was not satisfactory, but it did disclose circumstances which justified the inference that she, within a comparatively short time prior to her arrest, had been plying her trade of prostitute, and, on all the evidence, the conclusion is reached that the health officer was justified in directing her detention until she should become cured or until she might be safely allowed to go at large

Indictable Prescribing of Narcotics

(United States Behrman (U S) 42 Sup Ct R 301)

The Supreme Court of the United States, reversing a judgment sustaining a demurrer to an indictment of the defendant a physician registered under the Harrison Narcotic Law says that the law contains an exception to the effect that it shall not apply to the dispensing or distribution of such drugs to a patient by a registered physician in the course of his professional practice only nor to the sale dispensing or distribution of the drugs by a dealer to a consumer under a written prescription by a registered physician The rule applicable to such statutes is that it is enough to charge facts sufficient to show that the accused is not within the exception The district judge who heard this case was of the opinion that prescriptions in the regular course of practice did not include the indiscriminate doling out of narcotics in such quantity to addicts as charged in the indictment, but out of deference to what he deemed to be the view of a local district judge in another case announced his willingness to follow such opinion until the question could be passed on by this court and sustained the demurrer In this court's opinion, the district judge who heard the case was right in his conclusion and should have overruled the demurrer

Former decisions of this court have held that the purpose of the exception is to confine the distribution of these drugs to the regular and lawful course of professional practice and that not everything called a prescription is necessarily such It may be admitted that to prescribe a single dose or even a number of doses may not bring a physician within the penalties of the act, but what was here charged was that the defendant physician, by means of prescriptions, had enabled one, known by him to be an addict to obtain from a pharmacist the enormous number of doses contained in 150 grains of heroin, 360 grains of morphin and 210 grains of cocain Undoubtedly, doses may be varied to suit different cases as determined by the judgment of a physician But the quantities named in the indictment were charged to have been intrusted to a person known by the physician to be an addict, without restraint on him in its administration or disposition by anything more than his own weakened and perverted will Such so-called prescriptions could only result in the gratification of a diseased appetite for these pernicious drugs, or result in an unlawful parting with them to others, in violation of the act as heretofore interpreted in this court

Test When Defense Is Insanity—Nonexpert Opinions

(Feree v Commonwealth (Ky) 236 S W R 246)

The Court of Appeals of Kentucky, in affirming a judgment of conviction of defendant Feree, says that he was charged with wilful murder, and the defense was made that he was insane at the time of the shooting But no rule is more generally acknowledged, nor more fully sustained by reason, than the one which presumes every person to be of sound mind until the contrary is shown by a preponderance of the evidence One who enters a plea of insanity to a criminal charge must show by a preponderance of the evidence that his mind was so far gone so diseased and unsound that he did not know the consequences of his act, nor realize that he was doing wrong at the time of the act of which complaint is made It is the theory of some students of physiology *and assented to by many alienists, that most persons* have insane delusions on one or more subjects although they are of sound mind on all other subjects and may be good business people, industrial workers or leaders of thought, and this may or may not be true This court thinks, however that the true test in criminal cases is Did the defendant at the time he struck the blow or fired the shot which injured or killed another know or realize the consequences of his act? If he did, then he is guilty both at law and in morals If he did not know and was not able to realize the consequences of his act, then he was not responsible therefor either in law or morals Even though one may be possessed of insane delusions on one or more subjects he is liable for his criminal acts, if at the time he performs them he knows and realizes that he is doing wrong Cases are not infrequent in which one is sane part of the time and insane at other times If such a one commit a crime during his lucid intervals, he is as responsible as if he had never suffered from dementia The defendant, Feree, may have been insane, or so unbalanced mentally at the time of his breakdown some years before the killing with which he was charged in this case, that he would not have been responsible for his criminal act, but if he afterward recovered his responsibility returned at the same time

With regard to allowing nonexpert witnesses to express opinions as to the mental soundness of a person at a certain time the rule in Kentucky is to allow a nonexpert witness to give his opinion as to the mental condition of another only after he has testified to facts showing a familiarity on his part with the life, habits and conduct of the one whose mental condition is under consideration, and, even then, his opinion this court has held, is not so important as the evidence which he gives showing the idiosyncrasies or normalcy of the mind of the one under inquiry In other words the opinion of a nonexpert witness as to the mental status of another cannot be received in evidence because it has no probative value unless it is supported by a statement of facts from which the opinion can be and is reasonably deduced, and the opinion can be of no greater value as evidence than the facts on which it is based

Society Proceedings

COMING MEETINGS

Colorado Congress of Ophthalmology and Oto-Laryngology Denver July 28 29 Drs M D Brown and J M Shields Metropolitan Bldg Denver Secretary

Utah State Medical Association Salt Lake City Aug 31 Sept 2 Dr W L Rich Boston Bldg Salt Lake City Secretary

Washington State Medical Association, Tacoma Sept 5 6 Dr C H Thomson 508 Cobb Bldg Seattle Secretary

Wisconsin State Medical Society of, Green Lake, Sept 6 8 Dr Rock Sleyster Wauwatosa Secretary

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Diseases of Children, Chicago

June 1922, 23, No 6

*Food Requirements of Children III Fat Requirement L E Holt and H L Fales New York—p 471
*Frequency of Tuberculosis in Childhood F Hamburger Styria Austria—p 481
*Idiopathic Aplastic Anemia C Herrman New York—p 484
*Spasmophilia and Alkali Reserve of Blood J K Calvin and M P Borovsky Chicago—p 493
*Active Immunization of Nurses Against Diphtheria in a Children's Hospital J V Cooke St Louis—p 498
*Aspiration of Stearate of Zinc in Infancy H Heiman and P W Aschner New York—p 503
*Healing of Hypertrophic Pyloric Stenosis After Fredet Rammstedt Operation M Wollstein New York—p 511
Vitamin Requirement of Various Species of Animals V E Nelson A R Lamb and V G Heller Ames Iowa—p 518
*Peculiar Eruptive Disease Occurring in Infancy J H Park, Jr and J C Michael Houston Texas—p 521
*Value of Intracutaneous Tuberculin Test in Extensive Tuberculosis W M Happ and H R Casparis Baltimore—p 527
*Bacteriolytic Therapy of Bacillary Dysentery in Children W C Davison Baltimore—p 531
Review of Literature of Syphilis in Infancy and Childhood P J White St Louis—p 535

Fat Requirement of Children—Holt and Fales assert that a certain amount of fat should be supplied to provide fat soluble vitamin This amount is not yet known Fat probably has an important influence on mineral metabolism especially on calcium metabolism Fat is probably necessary for proper digestion and utilization of protein and on this account it seems desirable to supply as much fat as protein in the diet Fat helps to maintain normal physical, bacteriologic and chemical conditions in the intestine It also exerts a protective action against the irritating effects of the products of carbohydrate fermentation A great reduction of fat in the diet increases the susceptibility to infection, especially to tuberculosis The authors urge that the grounds for the current impression regarding the harmful effects of fat on children should be investigated carefully There is little evidence that a liberal amount of fat in the diet is harmful to children with normal digestion and much evidence that fat is an important and necessary component of the diet during the entire growth period In general, it seems rational to supply in the diet of the child as much as 4 gm fat per kilogram daily at one year, decreasing the amount to about 3 gm per kilogram at 6 years and maintaining this value throughout the remainder of the growth period

Frequency of Tuberculosis in Children—The method employed by Hamburger is this All children to be examined are first subjected to a cutaneous or percutaneous test with concentrated tuberculin Those who do not react, from twenty-four to forty-eight hours later receive a subcutaneous injection of 0 01 mg tuberculin Those who do not react after the second injection are given a third injection after a further twenty-four hours If the test is negative, another injection is given after the lapse of another twenty-four hours, or at most forty-eight hours the dosage being raised to 1 mg If the place of injection does not show any reaction, such as definite redness and infiltration the child may be regarded as free from tuberculosis with nearly absolute certainty In doubtful cases, an injection of 10 mg is given

Idiopathic Aplastic Anemia—Herrman reports a case in a child, 4 years old, in which marked improvement was obtained from transfusion of 380 c c blood from her father

Alkali Reserve in Spasmophilia—In three cases of spasmophilia in infants studied by Calvin and Borovsky no evidence of 'alkalosis" was found In fact there was a tendency for the alkali reserve to be lowered during the spasmophilic stage and gradually to be increased as the cases recovered

Immunization Against Diphtheria—During a four years' period all nurses with positive Schick reactions were given injections of toxin-antitoxin by Cooke and as a result more than 80 per cent were immunized In a small number the Schick reaction remained positive after two series of toxin-antitoxin injections As a result of the immunization, there was a decrease in the incidence of clinical diphtheria among these nurses of at least 90 per cent as compared to a previous three years' period

Aspiration of Stearate of Zinc by Infants—Stearate of zinc has largely replaced talcum as a dusting powder in the nursery With its ever widening use there has developed a striking increase in the number of disastrous results of infants from its accidental aspiration Heiman and Aschner present a clinical study of twelve cases and the results of experiments with zinc stearate insufflation in animals The onset of trouble is sudden and stormy, with rapid respirations and cyanosis Complete asphyxia may occur In eight cases the initial partial asphyxia was followed by a gradual recovery without definite involvement of the lungs The rapid respirations and cyanosis which followed immediately on the inhalation of the powder subsided during the course of three days The temperature was only slightly elevated The stearate of zinc container as now prepared for the nursery is a distinct menace to the health of infants The authors ask the medical profession to eliminate this dangerous type of container from the nursery

Healing After Fredet-Rammstedt Operation—The stomach of twenty-five infants who came to necropsy with hypertrophic pyloric stenosis were examined by Wollstein Two children died before operation, and the rest succumbed from twenty-four hours to two years after the Fredet-Rammstedt operation had been performed The lesion in hypertrophic pyloric stenosis is a hyperplasia of the unstriped muscle cells of the circular coat, while the connective tissue is not increased After the Fredet-Rammstedt operation healing is brought about by the cells of the serosa and submucosa, but the unstriped muscle cells take no part in the process The wound in the pylorus is healed within nine days The pylorus has become relaxed within two weeks The stomach has returned to its normal size within a month and the gap between the cut ends of the muscle coats has practically disappeared in six weeks In two years only a thin line of connective tissue fibers separates these two muscle ends, and the stomach is quite normal In contrast to the operation of gastro enterostomy which leaves the pylorus unchanged, the Fredet-Rammstedt operation cures the pyloric lesion

Eruptive Disease in Children—Twenty-one cases of what Zahorsky has termed 'roseola infantum," are analyzed by Park and Michael The outstanding features are the abrupt onset the high fever of from three to five days' duration without apparent cause, and the appearance of a morbilliform rash coincident with a critical fall of temperature to normal Additional points of distinction are the apparent noncontagiousness, and the predilection of the disease for infancy Moderate leukopenia and lymphocytosis appear to be the only significant laboratory findings This condition is distinctive and appears to be a clinical entity The etiology is unknown

Value of Intracutaneous Tuberculin Test—In order to compare the results of intracutaneous tests with those of the Pirquet cutaneous test, Happ and Casparis did Pirquet tests in most instances at the same time as the intracutaneous tests In miliary tuberculosis and tuberculous meningitis in infants and children the Pirquet cutaneous test was positive in just over 50 per cent of the cases The intracutaneous test is more sensitive and as opposed to the Pirquet test it not only affords a method of accurately measuring the amount of tuberculin given but enables one to increase the amount at will The authors assert that if a high enough concentration of tuberculin is given intracutaneously, a positive reaction will be obtained in practically all cases of tuberculosis

Bacteriolysant Therapy of Dysentery—As far as can be judged from twelve cases of bacillary dysentery in children,

in which bacteriolytic filtrates in amounts of from 5 to 1,381 c c were administered by Davison, bacteriolysant therapy did not influence the mortality or the course of the disease

American Journal of Roentgenology, New York

May 1922 **9**, No 5

*Roentgen Rays and Radium in Diagnosis and Treatment of Carcinoma of Prostate. H C Bumpus Rochester Minn —p 269
Roentgen Ray Diagnosis of Nonopaque Foreign Bodies in Air Passages W F Manges Philadelphia —p 288
Practical Method of Roentgen Ray Examination of Heart R G Harshner and R H Kennicott, Los Angeles —p 305
Protective Rubber Glove Rack R G Van Nuys Oakland Calif —p 314
Present Status of Deep Roentgen Ray Therapy in Europe W H Stewart New York —p 315
*Treatment of Diphtheria Carriers by Means of Roentgen Ray P M Hickey Detroit —p 319

Carcinoma of Prostate—Bumpus asserts that the average duration of cancer of the prostate, if untreated, is approximately three years Roentgenograms show that metastasis to the bone occurs in about one third of the cases of cancer of the prostate Metastasis from atypical carcinoma of the prostate, in which the cells, because of their tendency to early metastasis, produce only slight local enlargement, may frequently be mistaken for Paget's disease In order to treat successfully cancer of the prostate with radium it is necessary to use in the aggregate large doses (from 3,000 to 4,000 mg hours), exposing all parts of the gland to comparatively small doses The increased duration of life following radium treatment in cases of cancer of the prostate is in direct proportion to the amount of radium radiation applied No one method of application radiates all portions of the gland The malignant gland must be radiated by urethral and rectal exposures, and by needles inserted directly into the neoplasm in order to produce complete radiation of all portions Sacral anesthesia is a useful adjunct in the application of radium needles, making it possible to place the radium accurately and to change the position of the needles without pain, thus a more thorough radiation of the gland is accomplished

Treatment of Diphtheria Carriers by Roentgen Ray—Roentgen-ray treatments were given to diphtheria carriers by Hickey over the region of the tonsils, nose and mastoid areas, according to the type of the case In the throat cases, that is, those in which Klebs-Loeffler bacilli were found in pharyngeal secretions, the treatment was given on each side of the neck, the central rays being directed toward the tonsils In the nasal cases, the treatment was given directly over the nose, and in the ear cases over the mastoid area of the ear, which showed Klebs-Loeffler bacilli in the discharge Nineteen throat cases were treated, with a definite cure in fifteen of six nasal cases four were cured Nine cases of otitis media presenting Klebs-Loeffler bacilli were treated, with four cures A comparison shows that in untreated cases of diphtheria carriers, there was 34 per cent of spontaneous cures, cases treated with mercurochrome, 68 per cent of cures, pharyngeal cases treated by the roentgen ray, 80 per cent of cures

American Journal of Tropical Medicine, Baltimore

May, 1922 **2**, No 3

Microfilaria of Filaria Bancrofti W L McFarland New York —p 187
Effect of Emetinized Blood and Serum from Man and Cat on Pathogenic Entamebae in Stools. W Allan Charlotte N C —p 195
Experimental Investigation of Supposed Poisonous Qualities of Granary Weevil Calendra Granaria F Defiel Minneapolis —p 199
Death Caused by Ascarides F C Caldwell Panama —p 213
Blastocystis Species in Culture K. M Lynch Dallas Tex.—p 215
Certain Coprozoic Organisms in Cultures from Man K. M Lynch Dallas Tex —p 223
*Typhus Fever in Boston Review of Newer Methods of Diagnosing Typhus. G C Shattuck Boston —p 225
Relapsing Fever Spirochetes of Panama J H. St. John and L B Bates Ancon C Z —p 251

Typhus in Boston—On the basis of the estimated total of medical cases admitted to the Boston City Hospital during a ten-year period Shattuck says, the proportion of typhus diagnosed is slightly less than one case per ten thousand Failure to diagnose typhus seems to have occurred in the proportion of from one to two cases per ten thousand If this be true, the actual occurrence of fairly typical typhus cases during the past ten years was at the rate of from two to three cases per ten thousand admitted, but if any considerable number of atypical cases suggestive of typhus were in fact typhus, the figure should be higher The epidemiologic aspect of the question requires serious consideration because, should typhus begin to spread in Boston, the recognition of mild or atypical cases in their early stages would assume serious importance and the problems of differential diagnosis would be much the same as those encountered in the study of the hospital records

American Review of Tuberculosis, Baltimore

May 1922 **6**, No. 3

*Healing by Resolution in Experimental Pulmonary Tuberculosis L U Gardner Saranac Lake N Y —p 163
*Chemotherapy of Silver and Arsenic Compounds in Experimental Tuberculosis M I Smith Washington D C —p 183
Nonspecific Cross Fixation of Complement with Wassermann and Tuberculosis Antigens A D Dulaney Columbia Mo —p 192
*Tuberculosis in Infancy and Childhood Report of Case Incidence and Necropsy Findings in Forty Cases L. W Smith Boston —p 201
*Diagnosis of Active Tuberculosis in Children C B Gibson and W E. Carroll Meriden Conn —p 213
*Heliotherapy in Treatment of Laryngeal Tuberculosis. W C Voorsanger —p 223
Prevention of Tuberculosis Theory and Possibilities. D M Lewis New Haven Conn —p 229
Immunity to Tuberculosis A K Krause, Baltimore —p. 233

Healing in Experimental Pulmonary Tuberculosis—To the general pathologist, healing of the lesions induced by the tubercle bacillus usually signifies fibrosis or calcification A relatively small group of tuberculosis experimentalists have for twenty years or more been familiar with a low virulent strain of tubercle bacillus capable of inducing a different type of healing, namely, a complete disappearance of visceral lesions from the body of the experimental animal The organism which these observers have used is known in the Saranac Laboratory as Rk. Isolated by Trudeau from a human case of meningitis in 1891 this organism has maintained a constant low degree of virulence The visceral lesions resulting from its inoculation tend to heal spontaneously but Gardner says none of them has worked out by histologic study the mechanism of the healing process The illustrations accompanying Gardner's article demonstrate the fact that the R 1 strain of tubercle bacillus is capable of producing lesions which progress to caseation, and that this caseation together with the accompanying proliferation of fixed tissue cells is then absorbed The healing process is one of resolution, of which no trace remains at the site of the former lesion

Chemotherapy of Silver and Arsenic Compounds in Experimental Tuberculosis—An investigation conducted by Smith on the chemotherapy of some arsenic and silver compounds in tuberculosis has shown that neo-arsphenamin and silver arsphenamin have a very slight inhibiting action on the growth of the tubercle bacillus in vitro Colloidal silver oxid has no effect whatever on its growth, while silver methylene blue has a very considerable inhibiting action on its growth None of these substances has any demonstrable effect on the pathogenicity of the tubercle bacillus when exposed to their action in vitro at body temperature for forty-eight hours None of these substances when administered to experimentally infected tuberculous guinea-pigs has any favorable influence on the course of the disease

Tuberculosis in Infancy—A case of double miliary infection by the human tubercle bacillus in a child, aged 11, is presented by Smith The outstanding pathologic features of the case were the unusual numbers of organisms which stain readily with methylene blue, the two separate and distinct crops of miliary lesions, and a peripheral gliosis in the cord and cerebrum The statistics on 200 consecutive necropsies from the Infants' Hospital are reported, showing an incidence of 20 per cent tuberculosis An analysis of these figures is made showing the distribution of the lesions and their significance.

Diagnosis of Tuberculosis in Children—Gibson and Carroll emphasize that the diagnosis of tuberculosis in children is

not a subject for dogmatism It is their belief, however, that active tuberculosis is invariably manifested by signs and evidences of bacterial intoxication As long as there is an active tuberculous focus in the body, some indication of constitutional toxemia will be discovered either by physical diagnosis—the best means—or by some test or reaction One of the most interesting procedures of this nature is the auto-urine test of Wildbolz Gibson and Carroll have used the test on 105 children and it has been of value in establishing a definite diagnosis of active tuberculosis in certain cases and of great assistance in ruling out nontuberculous conditions Fifty-six cases previously classified clinically reacted positively The test not only corroborated physical findings of activity in 98 per cent of cases but brought to light a definite diagnosis in six children whose conditions had not been finally decided on Negative results were obtained in forty-nine cases and with one exception these results were not at variance with the opinions reached after clinical examination The percentage of the diagnoses of nontuberculous conditions in these cases which were corroborated by the auto-urine tests was 97 9 Therefore, the auto-urine test deserves a definite place among the various methods employed in diagnosis of active tuberculous disease

Heliotherapy of Laryngeal Tuberculosis—Voorsanger emphasizes the value of heliotherapy in the treatment of laryngeal tuberculosis, particularly in the infiltrative and mild ulcerative stages where, if carried out conscientiously for a period of six months, complete arrest is possible One of the greatest benefits of heliotherapy is the alleviation of pain, especially in hopeless cases The solar therapeutic laryngoscope of composition metal materially increases the efficacy of the application of sunlight to the larynx, in that it permits protracted exposure without causing painful hyperemia

Boston Medical and Surgical Journal

June 15 1922 **186,** No 24

International Mind in Medicine K Emerson Worcester Mass—p 795
Congenital Anatomic Defects of Spine and Ribs J W Sever Boston—p 799

Colorado Medicine, Denver

June 1922 **19,** No 6

Chorionepithelioma Report of Cases H A Black Pueblo—p 113
Resistance to Tuberculosis—Study of Influence of Carbon Dioxid on Tubercle Bacillus H Gauss Denver—p 118
Pernicious Anemia as Studied Through a Remission W Grieg Jr, and W S Dennis Denver—p 125
Consciousness and Secretions L W Cole Denver—p 127

Effect of Carbon Dioxid on Tubercle Bacillus—Gauss study indicates that the concentration of carbon dioxid found to inhibit the growth of the tubercle bacillus occurs normally in the human body, and that this concentration probably does inhibit the growth of the tubercle bacillus, thus establishing this factor as significant in the resistance to tuberculosis

Study of Pernicious Anemia During a Remission—A case of pernicious anemia showing a remission during which the hemoglobin rose from 10 to 56 per cent in twenty-one days is reported by Grieg and Dennis With the rise in hemoglobin content were showers of erythroblasts and megalocytes as well as leukocytes and myelocytes Early disturbances of the sensory nerves and numbness of the limbs were complained of in 1914 The absence of free hydrochloric acid from the gastric secretions and a long history of recurring attacks of mild diarrhea, and the blood chemical findings of a slight nitrogen retention and an acidosis not associated with ketonuria seem to be in keeping with the chemical findings reported by others in this disease

Journal of Industrial Hygiene, Boston

June 1922 **4,** No 2

Dysmenorrhea as an Industrial Problem S R Meaker Boston—p 49
Analysis of 123 Cases of Anthrax in Pennsylvania Leather Industry H F Smyth and E Bricker Philadelphia—p 53
Experiments in Air Conditioning P Drinker and R M Thomson Boston—p 63
Experimental Observations on Relation Between Atmospheric Conditions and Production of Fatigue in Mine Laborers A J Orenstein and H J Ireland Johannesburg S A—p 70

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May 1922 **19,** No 4

Functional Evidence of Phylogeny of Nervous System as Shown by Behavior and Resistance of Developing Rat to Strychnin E W Schwartze, Washington D C—p 273
*Pharmacologic Studies on Acetone W Salant and N Kleitman Augusta Ga—p 293
Toxicity of Skatol W Salant and N Kleitman Augusta, Ga—p 307
*Action of Mercury W Salant and N Kleitman Augusta Ga—p 315
Changes with Advancing Age in Resistance of Albino Rat to Arsenic F S Hammett and J E Nowrey Jr Philadelphia—p 331
Relative Toxicity of Germanium and Arsenic for Albino Rat F S Hammett J H Muller and J E Nowrey Jr Philadelphia—p 337

Pharmacology of Acetone—Salant and Kleitman's experiments show that acetone possesses a double action causing depression as well as stimulation, but it is chiefly a depressant These results seem to contradict some of the statements in the literature concerning the action of acetone Salant and Kleitman never observed cardiac acceleration, nor could they corroborate the statement of Albertoni that after large doses respiration was regular As to the potency of acetone it is evident that its action is not very strong, but is nevertheless considerable It is particularly interesting to note that its effect was greatly augmented when a number of just active or subminimum doses were given Though the amounts of acetone present in the blood in acidosis are comparatively small, it should be borne in mind that the tissues and organs in the body may be exposed to its action for a considerable period There is therefore, no justification for the assumption that acetone is without effect in those conditions simply because its concentration in the blood is low

Mercury Causes Fall in Blood Pressure—Salant and Kleitman noted that the intravenous injection of the acetate, succinate and benzoate of mercury into cats, dogs and rabbits produced a sudden fall in blood pressure which was very marked and persistent Depression and later paralysis of respiration also occurred Cardiac inhibition was produced by the intravenous injection of the salts of mercury in cats, but not in dogs or in rabbits Decreased irritability of the vagus was observed in cats after the intravenous injection of the organic salts of mercury That the fall in blood pressure after mercury was of cardiac origin was shown by observations on changes in the volume of the kidney Perfusion of the turtle heart with the different salts of mercury produced cardiac depression irregularity and delirium cordis Concentrations of one part of mercury to one million parts of Ringer's solution and even one to ten million, were effective The frog's heart was more resistant to mercury than the turtle's heart No delirium cordis was observed The action of mercury is cumulative

Laryngoscope, St Louis

May 1922 **32,** No 5

Facial Paralysis and Surgical Repair of Facial Nerve K W Ney New York—p 327
*Liver Tunnel and Cardiospasm H P Mosher Boston—p 348
New Operative Technic for Operative and Postoperative Treatment of Maxillary Sinus Diseases H B Lemere Omaha—p 363
Aeration of Posterior Accessory Sinuses in Acute Optic Neuritis L E White Boston—p 382

Liver Tunnel and Cardiospasm—Roentgenograms of the lower end of the esophagus often show it ending in a nipple-like point Between this and the fundus of the stomach there is a gap This varies in length but may measure 1 inch or even 1½ inches Mosher asserts that this gap is the closed liver tunnel in which the subdiaphragmatic part of the esophagus runs The lower end of the esophagus has liver on the right in front and in many cases a thin tongue of liver hooks round its left edge like a sickle In reviewing ten cases of cardiospasm Mosher found a stricture in all They are called cardiospasm because the obstruction occurred at the lower end of the esophagus, the esophagus ended in the characteristic nipple-like point, and swallowing of cold fluids increased the difficulty whereas swallowing of warm drinks made the passage of food through the esophagus easier The stricture found in these cases varied from a slight crescentic fold in the right quadrant of the esophagoscope in the region of the hiatus to a full annular stricture with a central open-

ing In the cases which showed the crescentic fold steady pressure with the end of the esophagoscope usually resulted in the tube slipping by into the normal esophagus below and through this into the stomach The withdrawal of the tube disclosed a vertical slit in the mucous membrane of the esophagus Three of the cases had a full stricture with a central opening This stricture was at the hiatus or rather at the upper edge of the liver On divulsing the stricture with the mechanical dilator a crescentic mounding was seen in the right field below it Steady pressure caused the tube to pass this and enter the subdiaphragmatic esophagus and then continue on into the stomach This mound, Mosher believes to be the upper edge of the liver In one case there was a narrowing of the whole length of the liver tunnel The cause of the annular stricture at the upper edge of the liver tunnel or of the narrowing of the whole tunnel will be found Mosher believes, in previous infection of the lesser omentum which may result in temporary or permanent narrowing of the liver tunnel

Minnesota Medicine, St Paul

June 1922 5, No 6

Traumatic Surgery as Viewed from an Industrial Standpoint. W O N Sherman Pittsburgh —p 343
*Causes of Failure of Operations for Chronic Appendicitis C J Rowan Iowa City Ia —p 348
*Primary Carcinoma of Lung R I Rizer and H C. Habein Minneapolis —p 352
Examination of Teeth in Group Medicine B S Garner Rochester Minn —p 356
Osteomyelitis C C Allen Austin Minn —p 359
Premenopausic Uterine Prolapse E Z Wanous Minneapolis —p 362
Nontuberculous Infection of Lungs H M Conner Rochester Minn —p 364
Experiences in Feeding of Whole Lactic Milk in Certain Conditions of Infancy C O Kohlbry Duluth Minn —p 369
Resume of Partial Rectal Prolapse with Suggestion as to Treatment W A Fansler Minneapolis —p 372
Puerperium from Standpoint of Neuropsychiatrist C. E Riggs St Paul —p 375

Causes of Failure After Appendectomy—Believing that a considerable amount of trouble complained of after appendectomy may be due to adhesions, Rowan regards as valuable the suggestion of Gibson to use 5 per cent picric acid in 95 per cent alcohol Its antiseptic action is as strong as tincture of iodin and its penetrating power as great, it is less irritating to skin and peritoneum, and peritoneal adhesions are not nearly so likely to occur following its use as a skin antiseptic After a careful study of his cases Rowan feels that the results of operation for chronic appendicitis are not satisfactory and that there is considerable room for improvement He suggests that these patients should have more careful examination and often more prolonged observation, especially if the condition is not in every way typical No patient should be regarded as having typical chronic appendicitis unless a history of a former characteristic acute attack is obtainable Extra care and consideration should be used before advising operation in neurotics especially those with colitis or visceroptosis More exploratory incisions should be used in preference to the muscle-splitting incision, and always in atypical cases, and the exploration should not end with the discovery and removal of a diseased appendix

Primary Carcinoma of Lung—When a patient has dyspnea, deep dull chest pain with hemoptysis and possibly some abnormal chest findings, Rizer and Habein state malignancy of the lung should be considered They report four cases in which the admitting diagnoses were tuberculosis, weakness of left arm and left leg, asthma, aneurysm or bronchiectasis and pleurisy with effusion, respectively The final diagnosis in these cases, in the order named, was primary carcinoma of the left lung, primary carcinoma of the lung with brain metastases, carcinoma of the right lung, with abscess and primary carcinoma of the right lung In each case the clinical diagnosis was confirmed at the necropsy and extensive metastases were found

New Orleans Medical and Surgical Journal

June 1922 74, No 12

Reminiscences E S Lewis —p 744
Address of Dr Matas at the Meeting of the Faculty of the School of Medicine on May 23 1912 —p 767
Address to Dr E. S Lewis. E D Martin —p 776

New York State Journal of Medicine, New York

June 1922 22, No 6

Sequels of Epidemic Encephalitis L F Barker, Baltimore —p 251
Communicability and Serum Treatment of Poliomyelitis H L Amoss, New York —p 256
Vasoligature and Stomach's Investigations C H Chetwood New York —p 260
Abuse of Cesarean Section R L De Normandie Boston —p 265
Effects of Roentgen Ray on Infected Lymph Tissue of Nasopharynx. W D Witherbee New York —p 269
Study of Paranoid Trends in Hysteria P R Lehrman New York —p 272
*Clinical Studies of Quinidin III Some Results of Quinidin Treatment of Auricular Fibrillation R L Levy New York —p 276
Heliotherapy in Tuberculosis H L Grasso Perrysburg N Y —p 281
Production of Antisheep Amboceptor in Mule R Gilbert Albany N Y —p 286

Quinidin in Auricular Fibrillation—In view of the possibility of the occurrence of occasional embolic phenomena and of serious disturbances in the cardiac rhythm Levy urges that until the criteria for choosing favorable cases are more clearly defined patients with auricular fibrillation receive quinidin in bed, under careful supervision and preferably in a hospital where the behavior of the heart can be studied with the aid of graphic records Carefully administered, this drug is a therapeutic agent of great value, indiscriminately given it may, on occasion, be expected to cause disastrous effects

Philippine Islands Medical Association Journal, Manila

January February 1922 2, No 1

Probable Endemicity of Schistosomum Japonicum in Philippine Islands M Paz Mendoza Guazon —p 1
Carcinoma of Maxillary Antrum V C Alcantara —p 7
Etiologic and Clinical Studies on Meningitis W Vitug —p 8
Frequency of Various Presentations and Postitions Among Filipino Women A Villarama —p 13
*Organisms for Two Sporadic Cases of Cerebrospinal Meningitis C Monserrat —p 15

Organism Isolated from Cerebrospinal Meningitis—The organisms isolated in the two cases of meningitis reported by Monserrat resembled morphologically and in staining characters the true meningococcus, differing however in the rapid profuse growth obtained in all ordinary mediums from the beginning, their ability to grow at room temperature, and their inability to ferment any sugar medium The formation of uniform emulsion in physiologic solution of sodium chlorid is a constant character of these two strains resembling in this respect the normal meningococcus, though there is a certain tendency to agglutinate spontaneously when observed microscopically in 0 85 per cent salt solution The absence of pigment in the growth on ordinary and special mediums distinguishes these organisms from the chromogenic D flavus group At the same time they differ from the D flavus-like organism isolated in one case previously reported by Monserrat, in that they are not agglutinated by a serum specific for that organism The facts that the present organisms were not affected equally by different antimeningococcic serums, and that with all of these serums except one rather low dilutions were necessary in order to produce reaction lead Monserrat to the conclusion that probably his strains belong to the intermediate group often found in sporadic cases and generally spoken of as aberrant strains or parameningococci These are more or less related serologically to the true meningococcus varieties, differing chiefly in their sugar reactions

Surgery, Gynecology and Obstetrics, Chicago

June 1922 34, No 6

Reconstruction Surgery of Face V P Blair St Louis —p 701
*Granuloma Inguinale A Randall J C Small and W P Belk Philadelphia —p 717
Hydatid Cysts of Pancreas M Alho Montevideo Uruguay —p 739
*Icterus Index of Blood Serum H P Maue New York —p 752
*Pathognomonic Sign of Intrauterine Death. A B Spalding San Francisco —p 754
Elephantiasis Treated by Kondoleon Operation F P Herff San Antonio Tex —p 758
Traumatic Orbitofacial Emphysema. G G Davis Chicago —p 761
*Experimental Pyloroplasty G H. Miller Chicago H H Bowing Rochester Minn and L L Stepp Pittsburgh —p 763

Experimental Reconstruction of Esophagus by Granulation Tubes H Neuhof and J M Ziegler New York—p 767
Total Removal of Scapula for Primary Giant Cell Sarcoma B B Davis, Omaha Neb—p 776
Streptococcus Scrotal and Penile Gangrene M F Campbell, New York—p 780
*Calculi Within Brain E A Miller Denver—p 786
Uterine Hemorrhage of Endocrinopathic Origin S H Geist, New York—p 790
Corrective Rhinoplasty L Cohen Baltimore—p 794
Bone Surgery of Nose W W Carter New York—p 800
Secondary Perineal Repair T H Cherry New York—p 803
New Metal Tube Splint for Fractures of Forearm H A McKnight Philadelphia—p 808
Direct Stimulation of Peripheral Nerves H O Feiss Cleveland—p 810
*Induction of Labor by Use of Castor Oil and Quinin Report of Three Hundred Cases A C Williamson Pittsburgh—p 812
Ulcers on Posterior Wall of Stomach and Duodenum M Behrend Philadelphia—p 815

Granuloma Inguinale—Randall and his associates are convinced that granuloma inguinale, long considered a tropical disease, is endemic in the temperate zone of the United States Its diagnosis is dependent on (1) the characteristic local lesion, (2) the marked predominance in the negro race, (3) and the finding of the specific organism originally described by Donovan These organisms the authors have demonstrated in smears from granuloma lesions in twelve patients in a series of sixteen In the other four instances laboratory examinations were not made An encapsulated bacillus, which when stained from cultures, resembles this organism, has been isolated from three of the twelve patients studied culturally This bacillus is a member of the *Bacillus mucosus-capsulatus* group Abscesses with spontaneous rupture and ulcer formation have been produced in rabbits by subcutaneous inoculation These heal spontaneously in from three to seven weeks and grossly cannot be regarded as granulomas although the walls of these abscesses on histologic examination present granulation tissue not to be differentiated from that of the granuloma lesions Friedländer's bacillus forms similar lesions A few experiments attempting to establish symbiotic relationships between the encapsulated bacilli from granuloma lesions and staphylococci, colon bacilli, and diphtheroids in experimental lesions have failed Treatment with tartar emetic intravenously acts as a specific, and rapid healing may be expected with the prompt disappearance of the specific organism No contraindication to the intravenous use of this drug up to doses as high as 0 1 gm have been met

Icterus Index of Blood Serum—Muehlingradt recently described a method for determining bile pigments in the blood Briefly, it consists of comparing blood plasma with a standard solution of potassium bichromate and diluting the plasma with physiologic solution of sodium chlorid until its color approaches that of the standard The potassium bichromate solution (1 10,000) is approximately equivalent to the color of a nonicteric plasma Maue has modified this method, using serum instead of plasma The technic is as follows A solution of potassium bichromate 1 10,000 is used as a standard From 5 to 10 c c of blood are obtained, and the serum allowed to separate The serum is compared in a colorimeter (Duboscq) with the standard bichromate solution The standard may be set at 10, 15 or 20 mm The icterus index is obtained by dividing the reading of the standard by the reading of the unknown When the color of the serum is too dark and cannot be compared with the standard solution, the serum is diluted with physiologic solution of sodium chlorid until its color approaches that of the standard In 156 cases giving no clinical evidence of jaundice, the lowest value obtained was 1 6 (fracture of skull), while the highest was 12 (pernicious anemia), the average being 3 6 An icterus index varying between 2 5 and 6 may be considered as normal

Pathognomonic Sign of Intra-Uterine Death—From a study of fetal skulls with the roentgen ray in thirty-one cases of pregnancy Spalding has found that with live babies the fetal skulls appear normal, except for the effect of labor which produces an overlapping of the skull bones In three cases of intra-uterine death, the roentgen ray showed the marked overlapping of the skull bones with distinct signs of shrinkage of the skull contents From these facts Spalding believes it is justifiable to state that shrinkage of the skull contents with overlapping of the skull bones can be demonstrated with the roentgen ray, which gives a pathognomonic sign of intra-uterine death

Experimental Pyloroplasty—The Rammstedt operation, or so-called "partial pyloroplasty," according to Miller and his associates is, when conditions will permit, the most effective way of enlarging the pylorus It has the advantage of being the simplest operation yet devised for this purpose and requires very little time under anesthesia A plastic flap operation is unsatisfactory on account of requiring such extensive incisions into the lumen of the canal It is also unsatisfactory on account of its tendency to retract and restore the divided pyloric sphincter

Experimental Reconstruction of Esophagus—A simple experimental method has been devised by Neuhof and Ziegler in which a granulation tube is employed for the reconstruction of the esophagus after its resection A two-stage procedure is requirement The desired portion of the esophagus being thoroughly isolated, gauze packings are placed beneath it, the ends coming out of the wound The latter is left wide open At the second stage one week later, the isolated portion of the esophagus is elevated by the traction on the packings and is divided obliquely above and below The packings and the segment of esophagus are then removed A bed of granulation tissue is found to have formed beneath the packings A soft rubber tube of the diameter of the esophagus is securely sutured to the upper and lower ends of the organ by stitches passed transversely When the tube becomes loose it is removed if it has not already been discharged from the wound A granulation tube forms with epithelial overgrowth from the esophageal ends beginning in one week and becoming extensive at the end of three weeks The longest period of observation was seven months after operation In this case the new-formed tube was well developed and completely lined by esophageal epithelium A partial stenosis appeared soon after operation but was not progressive The method is advocated as applicable for reconstruction of the esophagus after resection for cancer

Calculi in Brain—The case described by Miller differs markedly from those found in the literature in that the roentgenologic examination revealed shadows which had the appearance of stones or calculi within the brain substance and these were successfully removed at operation

Secondary Perineal Repair—The puborectalis muscles are the point of attack in Cherry's operation because, he asserts, the structures injured at the completion of the second stage of labor producing subsequent relaxed perineum and rectocele, are the pubococcygeus muscle bundles of the levatores ani, their fascial sheath (retrovesical and anal fascia), and the triangular ligament In order properly to correct the disturbed anatomic relationship of the puborectalis to the rectum it is necessary to approximate them with their fascial sheaths in the midline anterior to the rectum To restore the vulva and vaginal support which depends on the triangular ligaments it is necessary to shorten this structure and place it in close contact with the levator muscle and sheath The operative technic described by Cherry fulfils these conditions in that it reestablishes the perineal structures in their anatomic relation

Quinin and Castor Oil to Induce Labor—Quinin and castor oil in inducing labor, Williamson states, are successful in approximately 50 per cent of cases Labor should be carefully watched, for occasionally there may be tetanic contractions At the first sign of fetal or maternal distress, the operator should be ready to interfere If there are signs of cinchonism, the quinin is to be stopped at once The most favorable conditions for this type of induction are When the estimated date is due or past, when the head is fixed or beginning to fix in the pelvis and when the uterus is irritable The mechanism is due to irritation caused by the castor oil of the sympathetic centers with increased peristalsis and a reinforcement of the rhythm and muscle tonus by the quinin acting directly on the uterine muscle bundles

FOREIGN

An asterisk ( ) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

June 3 1922 **1**, No 3205

Dyspepsia and Conditions Underlying It Dawson —p 863
Effects of Chronic Starvation During Siege of Kut P Hehir —p 865
*Cancer of Breast Treatment of Proemial Breast G L Cheatle —p 869
Suture of Ruptured Left Dome of Diaphragm C J Marshall —p 871
*Unusual Cause of Death From Cancer E A Linell —p 872
Oral Sepsis in Its Relation to General Disease J M Ackland —p 872
Solubility of Quinin Hydrochlorid J H Crawford —p 874
Functional Amblyopia J A Wilson —p 875
Rupture of Varicose Veins Mimicking Accidental Hemorrhage C J H Aitken —p 875
Knot in Umbilical Cord as Cause of Accidental Haemorrhage A F G Guinness —p 875

Treatment of Proemial Breast—No surgeon of experience can be satisfied with the results obtained by the present surgical treatment of cancer when it arises primarily in the breast Cheatle directs attention to the existence of a potentially dangerous state of the breast, and indicates the advisability of removal of a breast in this state rather than wait for the evidence of disease for which surgical measures have been proved to be so unsatisfactory The condition of the breast which is a prelude to those particular pathologic changes Cheatle terms the "proemial breast' The proemial breast is worthy of due recognition for two reasons (1) It is in a state that makes it a prelude to further pathologic changes of a highly important character—mainly simple papilloma malignant papilloma, and other forms of cancer (2) Its clinical recognition and adequate treatment occasionally enables the surgeon to recognize (microscopically) the presence of one or more of these changes, before any clinical sign of their existence is obtainable by any other means—that is to say when the proemial breast has merged into those profoundly important stages to which it has acted as a prelude When once established the condition of the proemial breast is permanent The symptoms are swollen painful and tender nodules not of the same size in corresponding parts of the same gland There may be an intermittent or continuous discharge of serum from the nipple A thin layer of coagulated serum may be seen on the surface of the nipple The discharge is always small in amount In the later stages of this complaint the pain disappears and cysts are present in varying number The proemial breast bears exactly the same relationship to cancer and papillomas of the breast as the proemial appendix does to general peritonitis Cheatle's treatment of the proemial breast, in whatever stage it exists, is to remove it

Unusual Cause of Death in Laryngeal Cancer—Linell relates the case of a woman, aged 43, suffering from an inoperable carcinoma of the larynx which had required tracheotomy to relieve urgent symptoms She was comfortable until early in morning of the twenty-fifth day, when she awoke with severe pain over the precordium The pulse became almost impalpable and the heart sounds were very weak, but there was no dilatation of the organ and no bruits could be heard There were moist sounds at the base of the left lung These were the only antemortem findings of note except for slight sepsis round the tracheotomy tube The patient died the next day The postmortem examination disclosed a left sided pleurisy, abscess of left lung ruptured into the pleural cavity, nodular secondary growths on the pericardium and the left pleura, deposits in the bronchial glands, and in the right auricle, a papillomatous mass the size of a pea was found projecting into the cavity from the smooth endothelial wall Histologic examination of this growth showed the typical structure of squamous cell carcinoma From the facts that it was infiltrating the subendothelial heart muscle and separating the muscle fibers it would appear that the embolus had arrived via the blood or lymphatic system and that it was not an implant on the auricular endothelium from embolism down the superior vena cava

China Medical Journal, Shanghai

March 1922 **36**, No 2

Epithelioma F L Meleney —p 93
Modern Treatment of Leprosy H Fowler —p 115
Hospital Administration Council H Fowler —p 119
Micro Methods of Urine and Blood Analysis H Wu —p 121
Case of Vesicovaginal Fistula Operated on by Kelly's Method D Landsborough —p 128
*New Eruptive Fever in Infancy F Tso —p 130
Studies in Diet of Korean People J D Van Buskirk —p 136
Rinderpest and Its Prevention F L Bliss —p 153
Normal Rate of Pulse in Cantonese Students W W Cadbury —p 170

Exanthem Subitum—In 1921, Veeder and Hempelmann (THE JOURNAL Dec 3, 1921, p 1787) described an unusual syndrome of febrile exanthem occurring in early childhood. Three similar cases have been met with in Peking by Tso The disease is characterized by a period of high and continuous fever lasting from three to five days the appearance of a macular or maculopapular rash soon before or after the termination of the fever absence of physical signs, negative laboratory findings a distinct leukopenia, lack of contagiousness and a universally good prognosis

Indian Medical Gazette, Calcutta

May 1922 **57**, No 5

Measurement as Basis of Diagnosis of Furcocercous Cercariae F Milton —p 161
Role of Vitamins in Tropical Diseases J A Shorten —p 164
Diary of Medical Inspector of Schools A Hamid —p 169
Yaws in Malaya A Viswalingam —p 172
Ether in Tropics New Apparatus A Hooton —p 175
Differential Blood Count I F Napier —p 176
Case of Hypernephroma of Kidney G Chand —p 179
Difficult Obstetric Case After Ventrofixation of Uterus L W Hefferman —p 179
*Unusual Abdominal Tumor L W Hefferman —p 180

Abdominal Tumor—Hefferman's patient was a medium built Chinaman aged 22 years a mine coolie who complained of a sinus in the left iliac region He had no pain stools were normal and appetite unimpaired At operation the tumor proved to be a mass of adherent intestines and omentum Hefferman wonders whether the condition was a chronic tuberculous peritonitis or a chronic dysenteric peritonitis

Irish Journal of Medical Science, Dublin

April 1922 **5** No 2

*Venous Thrombosis and Gastric Carcinoma T G Moorhead —p 49
Blood Sugars C E Brunton —p 57
Prognosis in Mental Disease H R C Rutherford —p 65

Venous Thrombosis Sign of Malignant Disease—Moorhead states that the diagnostic value of intravenous thrombosis as a sign of visceral malignant disease seems hardly to have attracted the attention that it deserves, or rather it appears that while universally admitted to be a not unusual phenomenon in states of advanced cancerous cachexia, it is hardly realized that it may occur as a comparatively early symptom or even as the earliest symptom of a latent carcinoma Four cases are cited by Moorhead which bear out the value of this observation that there is a group of cases of latent cancer of the stomach with peripheral venous thrombosis as the earliest, and indeed only, prominent symptom throughout

Journal of Tropical Medicine and Hygiene, London

May 15 1922 **25**, No 10

Report on Hookworm Disease in British Solomon Islands N Crichlow —p 123
Pseudoleptospira Icterohemorrhagiae R W Mendelson —p 125
Freshly Dissolved Tartar Emetic in Venereal Disease F G Cawston —p 126
Cancer of Liver in African Native. A Y Massey —p 127

Lancet, London

June 3 1922 **1**, No 5153

*Lymphatics and Lymph Glands P T Herring and F G Macnaughton —p 1081
*Value of Pulse Charts in Acute Carditis in Childhood R Hutchison —p 1086
*Agglutinins in Normal Serums for Some Micro-organisms of Para typhoid Group A B Rosher and H A Fielden —p 1088
*Colloidal Benzoin Reaction in the Cerebrospinal Fluid J H Dible —p 1090

Cases of Interest to Anesthetist W B Howell—p 1092
*Significance of Discharge from Nipple in Breast Lesions E C Lewis—p 1093
*Case of Antrochoanal Polypus of Exceptional Size G W Dawson—p 1095
Postural Subsartorial Bursitis R Davies Colley—p 1096
Differential Diagnosis Between Cholelithiasis and Duodenal Ulcer W J McKenna—p 1096

Lymph Glands and Tuberculosis—Observations made by Herring and Macnaughton support the validity of the doctrine spoken of as Cohnheim's law which states that the tubercle bacillus reveals the site of its entry into the body by setting up characteristic changes in the lymph glands which receive lymphatics from the area in which it enters There is no evidence of a new formation of lymph glands in tuberculous conditions Microscopic glands exist and become enlarged, but much of the tissue associated with tuberculous glands is merely tuberculous tissue which bears a superficial resemblance to lymph glands in whatever situation in the body it occurs

Treatment of Carditis—The treatment of carditis, Hutchison says offers few opportunities for active intervention—rest and patience are chiefly required, and too active therapeutics may do more harm than good

Agglutinins in Normal Serum for Paratyphoid Group—Rosher and Fielden have found that among the general population a considerable proportion of individuals yield serum agglutinating *B paratyphosus* C, *B aertrycke* (Mutton), and *B enteritidis* (Gaertner) Some evidence is brought to show that the agglutination of *B aertrycke* and *B paratyphosus* C is largely due to secondary agglutination from the paratyphosus B element of the triple vaccine, whereas *B enteritidis* (Gaertner) seems to be coagglutinated both by the typhoid and paratyphoid B elements If a diagnosis is to be made on a single agglutination reaction, the titer must be very considerably higher than 1 640 for these organisms A titer of over 1 1,000 is suggestive of infection with the organisms concerned, and a titer of over 1 2,000 is strongly suggestive of the same conclusion, but in all cases it will be necessary, if an accurate diagnosis is to be arrived at, to perform repeated tests and to demonstrate fluctuation in the agglutinin content of the patient's serum which is now generally recognized as characteristic of infection with organisms of this group and which the studies of Dreyer and his associates have made it possible to follow accurately hitherto unobtainable

Colloidal Benzoin Reaction of Normal Cerebrospinal Fluid—From Dible's experiments it would appear that the negative reaction occurs with normal cerebrospinal fluid The positive reaction indicates an alteration in the cerebrospinal fluid which is very probably syphilitic in nature An ambiguous reaction indicates a pathologic condition in the cerebrospinal fluid, but does not indicate its exact nature

Significance of Discharge from Nipple in Breast Lesions—Among 251 cases of lesions of the breast reviewed by Lewis there were only 26 patients, all of them women who gave a history of discharge from the nipple In these 26 cases the lesions were as follows spheroidal cell carcinoma, 9, chronic mastitis (cystic and noncystic), 6, duct carcinoma, 4, duct papilloma, 4, Paget's disease of the nipple, 1, abscess, 1, seborrheic dermatitis of the nipple 1 In the case of spheroidal cell carcinomas, the total number of patients treated in ten years was 129, giving a percentage of about 7 with discharge The percentage in chronic mastitis was 13 3, in duct carcinoma 36 3, and in duct papilloma 100 Of forty-four cases a history of discharge was given in 6—e g, duct carcinoma, 1 (out of 4 specimens of this disease), spheroidal cell carcinoma, 3 (out of 18), chronic mastitis with multiple cysts, 1, malignant disease of the nipple, 1 In the single case of duct papilloma in the collection, in which the duct has dilated to the size of a small orange, the presence or absence of discharge is not mentioned in the history In each case in which discharge was present the lesion lay immediately beneath the nipple In all the malignant cases except one, the patient had noticed the presence of a swelling in the breast for some time previous to the appearance of the discharge Therefore, discharge from the nipple is not in itself a definite expression of malignancy and should not be treated as such unless the suspicion is strengthened by the rest of the history and clinical picture

Large Antrochoanal Polyp—The polyp in Dawson's case weighed 9 5 drams and filled the nasopharynx, bulging the soft palate forward Respiration or deglutition was impeded Beyond the peculiar muffled speech, and the occurrence of fits of suffocation should he happen to turn on his back during sleep, there were no symptoms

Medical Journal of Australia, Sydney

April 22 1922 **1**, No 16

*Theory of Cancer T Cherry—p 425
Ureteric Calculi and Phleboliths R Bridge—p 439

Theory of Cause of Cancer—Cherry is of the opinion that overnutrition and lessened muscular activity are factors in the increase in cancer morbidity and mortality He speaks of activators and proliferins More muscular work at all ages after 40, less elaboration in the manufacture of cereal foods and the attainment of conditions which insure greater activity of the skin, are suggested as prophylactic measures

April 29 1922 **1**, No 17

Work of Massachusetts Halifax Health Commission B F Royer—p 451
Possibilities of Irradiation in Malignant Disease L J Clendinnen—p 456
*Causation of Cancer W J Penfold—p 460
Bilateral Primary Solid Ovarian Carcinoma W T Chenhall—p 463

Causation of Cancer—Penfold takes exception to Cherry's postulation of a 'proliferin" and an "activator" It seems likely to him that the selecting agent or agents may be a product of defective metabolism, which product accumulates within the body He suggests that all the known intermediate bodies which arise within the body in the metabolism of the proteins, purins carbohydrates and fats should be tested in turn for the discovery of selective power

May 6 1922 **1**, No 18

Education Number

May 13 1922 **1**, No 19

*Importance of Uterosacral Ligaments in Uterine Prolapse. C A Thelander—p 511
*Tumors of Brain Pathology and Treatment H R Dew—p 515
Schaefer Method of Artificial Respiration T S Dixson—p 521
Acute Poliomyelitis M O Sullivan and J G Sleeman—p 523

Restoration of Uterosacral Ligaments for Prolapse—Thelander believes that restoration of the uterosacral ligaments approximates closer to a physiologic condition than any other operation for prolapse After restoration of these ligaments the stress of normal labor may be withstood without recurrence of prolapse Plication of the ligament gives better results than parietal reattachment The operation can easily be supplemented by one of the round ligament suspensions if thought necessary Where uterosacral support is adequate no other operation is necessary

Tumors of Brain—Among the eighty-five cases analyzed by Dew were 30 gliomas, 6 endotheliomas, 1 sarcoma, 4 secondary tumors 2 simple cysts, 2 papillary cancers, 4 gummas, 1 tuberculoma, 1 adenocarcinoma and 5 hydatids Headache was the commonest symptoms, mental changes were noted in fifteen patients Aphasia was noted in five Convulsions were noted in twelve patients and as initial symptoms in eight Ataxia was noted in connection with three frontal tumors Optic neuritis was present in forty-six Nystagmus was present in sixteen patients suffering from cerebellar tumor In reviewing the facts as put forward the diagnosis and treatment are disappointing when compared Too often surgical intervention was delayed too long because of delay in diagnosis With the fuller adoption of the newer aids to diagnosis there is no doubt that few of the subtentorial tumors will escape detection and more of the others will be correctly localized

Medical Journal of South Africa, Johannesburg

April 1922 **17** No 9

Problem of Ventilation on Witwatersrand E H Cluver—p 174
Case of Melano-Epithelioma of Palate and Alveolar Arch J C G Macnab—p 185
Ocular Tuberculosis Two Cases E. B Israel—p 186

Practitioner, London

May 1922 **108**, No 5

Chronic Intestinal Stasis W A Lane—p 305
Enucleation of Tonsil Under Local Anesthesia D McKenzie—p 314
*Diathermy in Malignant Disease of Mouth and Fauces W J Harrison—p 321
*Diathermy in Treatment of Malignant Disease F J Steward—p 328
Some Common Disabilities of Foot in General Practice G P Mills—p 335
*Painful Heel W F Stiell—p 345
*Method of Using Tuberculin R Robertson—p 354
Drug Therapeutics Suggested Principle and New Drug (T N T) W E Boyd—p 362
Erysipelas and Streptococcal Septicemia A Erian—p 373

Diathermy in Malignant Disease of Mouth—In faucial growths, the ease with which diathermy can be employed the lack of hemorrhage, preliminary tracheotomy splitting of the cheek or other operation Harrison says makes it very much more satisfactory and safer than a cutting operation Unfortunately, growths in this situation are often only passed over to the surgeon who uses diathermy when they are inoperable by the knife but in spite of this many patients have remained free from recurrence two, three or more years after the operation, and many others have had their lives prolonged, and their symptoms greatly relieved for shorter periods Harrison is certain that if earlier cases in this situation were operated on by this method the results would be more satisfactory than in cutting operations

Diathermy in Malignant Disease—In order to treat a case of malignant disease satisfactorily by diathermy, Steward says two conditions are essential apart from the provision of an efficient apparatus These two essentials are good illumination and complete exposure If, for instance the growth is situated within the mouth a good headlight is necessary, and by means of gage retractors, sutures through the tongue and if necessary splitting the cheek the whole of the affected area must be brought into plain view for no good can be expected to result from working in the dark Treatment by diathermy is capable of wide application, it is, for instance, available for many cases of malignant disease involving the tongue, the floor of the mouth the fauces the palate, certain parts of the pharynx the vulva, and vagina Of growths of the skin although the majority are better excised with the knife rodent ulcers are particularly suitable for treatment by diathermy

Painful Heel—By far the most prevalent type of painful heel, Stiell states is the condition known as "bruised heel" The second most frequent cause of pain in the heel is a true Achillo bursitis, which is an inflammatory condition in the bursa between the Achilles tendon and the posterior surface for the tuberosity of the os calcis This condition is usually produced either by continued trauma from an ill-fitting boot or shoe, or is a local manifestation of generalized rheumatic or gouty bursitis Another prevalent cause of acute pain of sudden onset around the heel is a true tenosynovitis of the Achilles tendon This condition is known by the name of achillitis, and is practically always traumatic in origin It is sometimes known as *sprinter's heel, but is equally prevalent* among sportsmen in general Another cause is tuberculous osteomyelitis, although it is only in the later stages of this condition that pain becomes a prominent symptom A gonococcal inflammation of the plantar fascia is an infrequent cause of pain in the anterior portion of the ball of the heel Calcanean spur is a comparatively rare cause of heel pain

How to Use Tuberculin—Robertson uses a mixed bovine and human tuberculin, beginning with an initial dose of 1/50 000 mg, future treatment being based on the reaction

South African Medical Record, Cape Town

May 13, 1922 **20** No 9

Remote Surgical Conditions following Childbirth H E Allanson—p 162

Tubercle, London

May 1922 **3** No 8

Effects of Tuberculin P M Holst—p 337
Vital Capacity in Pulmonary Tuberculosis C Cameron—p 353

June 1922 **3**, No 9

*Vital Capacity in Pulmonary Tuberculosis C Cameron—p 385
*Relationship of Tuberculosis and Injury N Tattersall—p 400
Severe Emphysema Complicating an Artificial Pneumothorax A Aronson—p 403

Vital Capacity in Pulmonary Tuberculosis—The estimation of the vital capacity by a suitable spirometer, Cameron states, is a simple clinical test, which even in pulmonary tuberculosis *is attended by the minimum of ill effects* No ill effects were observed in the course of 6,000 observations The vital capacity is always reduced in pulmonary tuberculosis, a fact of considerable significance in the diagnosis of doubtful cases It should however, be borne in mind that other lung diseases than tuberculosis may effect a reduction The vital capacity, with certain reservations, is reduced in proportion to the grade of the disease There are grounds for considering that two elements are concerned in his reduction (*a*) the element of toxemia, (*b*) the element of pathologic structual tissue change In the early case the probability is that the toxic element is the main factor in causing reduction In the more advanced case both elements play their parts The significance of the reduction can only be interpreted in association with the results of careful clinical examination The vital capacity in pulmonary tuberculosis varies according to the state of the patient, increasing when improvement takes place and decreasing during periods of physical retrogression An increase of vital capacity is, in this respect, per se, an absolutely reliable guide to the progress of the patient A stationary or slightly decreasing, vital capacity, usually *denotes an unsatisfactory pulmonary condition, but in such* cases the vital capacity must be considered in association with the clinical findings, and other possible causes of diminution eliminated Advancing disease is always associated with diminishing vital capacity, but diminishing vital capacity need not necessarily indicate advancing disease The vital capacity is of restricted value in estimating the work capacity of the victims of pulmonary tuberculosis Excessive vital capacity diminution is not compatible with work capacity but the more moderate grades of diminution bear no definite relation to work capacity The upsetting factors here are the varying parts played by the anatomic and toxic elements in the reduction of vital capacity The fairly advanced but temporarily quiescent type of case, may have a vital capacity considerably reduced by causes which are largely anatomic, and yet have within limits a good work capacity The moderately early case in which anatomic change is slight but disease is active and toxic manifestations controllable only by comparative rest, may have a much higher relative vital capacity, and yet be quite unfit for any grade of work

Relationship of Tuberculosis and Injury—*To* correlate injury and tuberculosis, Tattersall says, the symptoms must appear promptly (within a few days or weeks) after the injury The lighting up of an existing focus is infinitely more frequent than subsequent implantation in damaged but healthy lung Foci in the mediastinal glands play a more important part in these cases than has generally been supposed

Annales de Medecine, Paris

April 1922 **11** No 4

*Renal Diabetes M Labbe—p 273
*Auto Observation of Epidemic Encephalitis P Cantaloube—p 285
*Splenopneumonia A Pelle—p 300
Spontaneous Aneurysm Involving Aorta and Vena Cava. J Chalier and F Barret—p 306
*Curable Tuberculosis in Infants R Debre and P Joannon—p 320
*Mercuric Chlorid Poisoning G Guillain and C Gardin—p 338

Renal Diabetes—Labbe reports a case of renal diabetes under observation from the age of 6 to 18 The general condition has always been good notwithstanding this permament excessive permeability of the kidneys for glucose The elimination of sugar at times amounted to 44 gm It was *scarcely affected by the diet, but there was a slight orthostatic* tendency and there was also orthostatic albuminuria Intravenous injection of calcium chlorid seems to reduce the permeability of the kidneys for glucose He treated this patient by this means, and when last seen she was *eliminat-*

mg only 0.25 gm of glucose and 0.04 gm of albumin in the twenty-four hours

Auto-Observation of Epidemic Encephalitis—Cantaloube presented intense ovaluria and crossed trigeminus-facialis paralysis, besides the usual kaleidoscopic clinical picture of grave epidemic neuraxitis. He was not able to resume his practice until October, 1921, just before the close of the second year. He appears to have recovered completely, and now weighs 2 kg. more than he ever weighed before. He was confined to bed for over three months in the whole course of the disease. He declares that no medication displayed any efficacy. No attempt was made to induce a fixation abscess, and he did not try hexamethylenamin, but almost the entire therapeutic resources otherwise were tried and abandoned, from ergot to sulphur, with organotherapy and large doses of tincture of iodin. No action was apparent from any of them except possibly from calcium chlorid, lead acetate and phosphoric acid. Tobacco was the only substance that displayed any decisive action, and this was in the line of aggravation of the symptoms. The disease is described from the standpoint of the medical victim. The peculiar instability of the arterial tonus is emphasized, and the visual, auditory and meningeal reactions and intense pains in joints.

Pneumonia with Splenization of the Lung—In Pelle's 7 cases of splenopneumonia, the condition had been mistaken for a subphrenic abscess in 2 cases, and on this basis a useless operation had been applied. In 3 cases the patients were being treated for supposed active pulmonary tuberculosis. In the 2 other cases pleurisy had been diagnosed. The trend toward recovery in two or three months, with retrogression of the roentgen-ray findings and negative bacteriologic examinations, confirms the diagnosis of the comparatively harmless splenopneumonia.

The Florid Form of Tuberculosis in Infants—In the eight cases described the children had the aspect of health, and they have developed normally. The only signs of their infection are a positive tuberculin skin reaction and one or more enlarged glands in the chest. The source of infection was not very virulent and the contact had been brief. This florid form represented 15 per cent. of tuberculous infants examined. If superinfection can be warded off, these children have every prospect of keeping their tuberculous focus latent or healing it completely.

Mercuric Chlorid Poisoning—Guillain and Gardin illustrate with a clinical case the vicious circle that is set up by mercuric chlorid. The acute nephritis which it induces causes retention of nitrogen, and this entails an acute toxic action from which the heart suffers, so that the danger really is from the heart. Treatment should aim to sustain the heart as the vital indication. By thus reenforcing the heart we can tide the patient along until diuresis sets in—which is usually about the fifth day. This clears out the waste products, and the primordial danger, the nitrogen poisoning, is thus averted. In their case mercury was refound in the spinal fluid, but the fluid was scanty, suggesting an action on the choroid plexus like that on the kidneys responsible for the anuria. The production of bile did not seem to suffer. Some cases with a favorable outcome are cited, in three weeks the patients were out of danger.

Bulletin de l'Academie de Medecine, Paris

May 16, 1922, 87, No. 20

*Fracture of Neck of Femur. P. Delbet.—p. 533
Epidemic Herpes Zoster Alternating with Chickenpox. Netter.—p. 535
Is Rat Leprosy Transmissible to Man? E. Marchoux.—p. 545
*Prophylaxis of Diphtheria. J. Renault and P. P. Levy.—p. 547

Apparatus for Screw Treatment of Fracture of Neck of Femur—Four illustrations show the details of Contremoulins' device with which it is possible to drive a screw or peg axially through the neck into the exact center of the head of the femur.

Prophylaxis of Diphtheria—Renault and Levy think they have improved on the Park and Zingher method by their practice of mixing the toxin and antitoxin only as the mixture is to be injected. They also use a mixture which is neutralized to excess. This strong hyperneutralization protects against all possible dangers. Out of the total thirty-two children thus treated the results were recorded in twenty-eight over several months. There seems to be a passive immunization during the first two weeks. Then this subsides and active immunization becomes installed, between the second and fourth months, in about 50 per cent. By the fourth to the sixth month nearly all have acquired it.

Bulletin Medical, Paris

May 13, 1922, 36, No. 20

*Meningococcus Septicemia. J. Reilly.—p. 379
*Recurring Mental Disturbance in Degenerates. R. Benon.—p. 383
*Glycosuria in Gout. C. Finck.—p. 389

Meningococcus Septicemia—Reilly's experience confirms that any of the types of meningococci are liable to induce septicemia. The micro-organisms may lurk in tissues adjoining the meninges and sally forth at times from these *gites parameningés* to invade the cerebrospinal fluid or the general blood stream. The paradoxic fact has been noted that meningococci from these parameningeal lurking places passing *into the blood stream, are refractory* to general serotherapy but yield to intraspinal treatment. Meningococci passing only secondarily to invade the meninges are more susceptible to general serotherapy. The combination of intraspinal and intravenous serotherapy represents great progress.

Recurring Mental Disturbance in Degenerates—Benon warns to be on the lookout for this *delire des degeneres* in subjects between 18 and 30 presenting sudden asthenia and tendency to melancholia. In a case described, the two attacks with depression in the young man were most certainly not neurasthenia, dementia praecox or a periodical psychosis. The attacks developed after emotional stress, the asthenia without known physical cause becoming pronounced in a few hours with illusions, hallucinations, headache, cold sweats and tendency to suicide.

Glycosuria in Gout—Finck has noticed a kind of balance between the excretion of uric acid and of sugar in gout. As one increases the other drops, but fully 20 per cent. of all his gouty patients developed glycosuria, and it progressed to actual diabetes in about 10 per cent. The retention of uric acid was most pronounced the days of the highest glycosuria and vice versa. The retention of uric acid was manifestly favored by hypo-alkalinity of the body fluids. Restriction of meat and treatment as for gout in general improved conditions as to both uric acid and sugar. He gives the details of eight cases long under observation, out of a total of thirty-three cases of glycosuria in the intervals between attacks of gout. It was a mild intermittent glycosuria, gradually becoming continuous, but without polydipsia or polyuria. Meat usually aggravated *the glycosuria*.

Bulletins de la Societe Medicale des Hôpitaux, Paris

May 5, 1922, 46, No. 15

Technic for Intratracheal Injections. Oudard.—p. 716
Murmur in Dilated Veins in Abdominal Wall. Huber et al.—p. 718
*Cardiovascular Action of Pepsin. Loeper and Mougeot.—p. 721
Action of Pepsin on Motor Function of Large Intestine. Loeper and Baumann.—p. 726
*Descending Rhinobronchitis. A. Florand and H. Flurin.—p. 729
*Anaphylaxis from External Applications. Gougerot and Blamoutier.—p. 733
Professional Dermatitis. Gougerot and Blamoutier.—p. 739
Bullet Borne in Heart Muscle for Over Two Years. H. Tecon.—p. 743
*Cardiovascular Thrombosis. P. Emile Weil and Isch Wall.—p. 748
*Distribution of Leukocytes in Scarlet Fever. T. Mironesco and A. Codreano.—p. 752

Pepsin Reduces the Blood Pressure—The experimental and clinical research described suggests that the resorption of pepsin during digestion may have something to do with the circulatory disturbances in dyspepsia by its action on the vagus. The blood pressure under its influence drops in cases of high tension and this effect lasts longer than in normal subjects. The subcutaneous injection of from 20 to 40 cg. of pepsin may therefore be advised. Loeper and Mougeot say, as a regular treatment of hypertension, especially paroxysmal hypertension. The drop averages 2 cm. mercury.

in the normal, and with high blood pressure may amount to 4 5 cm The effect was evident in five minutes, and the pressure did not begin to rise again for a whole hour There were no subjective disturbances, and the heart rhythm was not affected, while the effect on the blood pressure was as pronounced as with the best pressure reducers known, even the nitrites

Emphysema of the Lung—A descending rhinobronchitis entails chronic coughing, and the breathing through the nose is defective The consequence is a debility of the connective and elastic tissue of the lungs, the alveoli become abnormal, and thus conditions are ripe for the mechanical strain from the cough to start emphysema

Anaphylaxis from External Applications—Two cases are reported in which cade oil applied to the skin induced local and vascular reactions indicating pronounced anaphylaxis Desensitization was realized in the course of one month by local application of minute and progressive amounts of the same oil These cases warn to seek for anaphylaxis and the hemoclastic crisis in skin diseases, and try to desensitize through the epidermis In the following article, Gougerot and Blamoutier report an occupational anaphylaxis eczema from working on ebony wood The man was desensitized with an alcoholic extract of sawdust from the same wood The anaphylaxis in this case had been two years in developing, and the desensitization was realized in eleven days

Cardiovascular Thrombosis—The woman of 32 presented febrile asystolia and purpura, with severe hemoptysis, and necropsy revealed both auricles filled with clots, partly adherent

Distribution of Leukocytes in Scarlet Fever—Mironesco found in nine cases of scarlet fever and five of other diseases that in scarlet fever the proportion of leukocytes in the capillaries is much larger than in the veins He theorizes to explain this as a defensive reaction

Encephale, Paris

May 1922 **17**, No 5

Localization in the Cerebellum André Thomas—p 257 Cont'd
The States of Mental Derangement M Mignard—p 266
The Role of Complexes in Morbid Manifestations in the Insane F Minkowski—p 275 Conc'n
Tuberose Sclerosis of the Brain and Hydrocephalus in Relation to Early Puberty K H Krabbe—p 281 Cont'd
Psychic Disturbances in Tabes C I Urechia—p 289
Melancholia with Melanoderma of Exposed Parts H Damaye—p 293

Topography of the Cerebellum—This profusely illustrated article describes research on dogs and monkeys, a continuation of similar work before the war Lesions experimentally induced were compared with the motor functioning thereafter, and with the necropsy findings

Interaction of Organic and Mental Disturbances—Mignard discusses what he calls the *emprise organopsychique* in conditions of mental derangement The diseased organism is no longer able to serve properly the controlling mind He regards this morbid interaction of mental modifications and neuroreflex functions as the capital fact dominating psychopathology

Gynecologie et Obstetrique, Paris

May 1922 **5** No 5

*Cesarean Section F Magalhães (Rio de Janeiro)—p 345
*Pathogenesis of Myomas A Rosner—p 358
The Sugar Content of the Blood During Pregnancy and After Delivery Boutot et al—p 364
The Hemoclastic Reaction in the Pregnant M Didier—p 366
Polypiform Edema of Uterine Cervix at Term Rouvier—p 374
Conical Resection of Uterine Cervix P Douay—p 377

Artificial Extraperitoneal Cesarean Section—*Magalhães* applies this term to abdominal cesarean section when the exposed uterus is covered with two overlapping sheets of dental rubber dam (1 x 0 5) which are held in place by a rubber band slipped over the uterus, as he shows in an illustration This rubber tissue fits over the uterus and is packed *into the abdomen* around, thus completely isolating the uterus from the abdominal cavity The overlapping edges of the two sheets on top of the uterus are drawn apart and the uterus is incised between them The evacuation of the uterus thus proceeds without the slightest danger of contamination of the peritoneum Confident in the outcome, he has applied this technic in 148 cases, and the total mortality of the mothers was 7 8 per cent although six of the eleven women who died had high fever and extensive ruptures of vagina and cervix from long and vain efforts to deliver by the normal route before they had been brought to the Maternity He does not know of any other obstetrician with such a record The postoperative course in his 148 cases was febrile in thirty-eight, but twenty-six had a temperature of over 39 C before the intervention, thirty-four, between 38 and 39 C, and thirty-eight had between normal and 38 C In thirteen cases of permanent contraction of Bandl's ring, all the women were saved but one severely injured by preceding obstetric procedures

Pathogenesis of Myomas—In 455 myomatous young women examined, 39 per cent, were of the type of Stiller's congenital muscular asthenia and 5 2 per cent of the type of hypertrophy of the muscular apparatus

Journal de Radiologie, Paris

May 1922 **6** No 5

Congenital Pseudarthrosis of Clavicles A Mouchet and P Frrard—p 212
The Os Trigonum A Laquerriere—p 218
Injections of Radium Emanation in Olive Oil A Jentzer—p 222
The Pneumoperitoneum Morel Kahn—p 224
Radiotherapy of Opacity of the Cornea Gilbert and Haim—p 227
Portable Radiographic Apparatus J Loubier—p 230

Progrès Medical, Paris

May 27 1922 **37** No 21

Exophthalmic Goiter Syndrome C Achard—p 241
Exostosis of Upper Tibia A Broca—p 245
Contraction of the Uterus During Labor H Vignes—p 245

June 3 1922 **37** No 22

Dosage of Pepsin in Gastric Juice M Loeper and J Baumann—p 253
Bronchiectasi L Ramond—p 257

Dosage of Pepsin in Gastric Juice—Loeper and Baumann remark that the pepsin in the gastric juice does not seem to interest clinicians, who do not seek to estimate it systematically The proportion of hydrochloric acid seems to have greater influence on the digestion of albumin Under normal conditions the amount of pepsin is higher with bread than with meat, sugar or milk Bread induces a stronger peptic and a weaker hydrochloric acid secretion than meat Variations are slight in the healthy, but they have a wide range in disease In cancer hypopepsia is the rule In gastritis and dyspepsia the peptic activity is extremely variable, but has no connection with the symptoms or evolution of the disease Dissociation of the hydrochloric acid and pepsin is often found in pathologic and normal conditions

Riforma Medica, Naples

May 15 1922 **38**, No 20

Opening Lecture of Surgical Course M Donati—p 457
Blood Pressure in Exophthalmic Goiter R Falconcini—p 465
Saline Iodin Waters in Treatment of Catarrhal Urethritis etc C Pini—p 466
*Transmission of Syphilis by a Bite G Martini—p 467
Social Aspects of Laryngeal Tuberculosis G Grademigo—p 467
Epidemic Singultus T Silvestri—p 468

Exophthalmic Goiter—Falconcini found the blood pressure high in all his twelve cases of exophthalmic goiter, but the proportions between the systolic and diastolic pressure seemed to indicate a diastolic hypotension, masked by the tachycardia The pulse was apparently normal except for its catacrotism and the instability evident in changes of position and under emotions In only four of his six cases of well defined exophthalmic goiter was the heart of the shape and size known as goiter heart, and in none of the cases of the incomplete type

Syphilis Contracted from a Bite—Martini relates that a sister of 16 tried to separate her two older brothers who were fighting, and in the melee she was bitten on the hand by one of the brothers, *who had also bitten the nose of his* brother The sixteenth and twentieth days after the affair

the girl and the brother developed syphilitic lesions at the points bitten, and both progressed to the specific rash, notwithstanding prompt arsenical treatment The biter had been under treatment with neo-arsphenamin for several months at the time

Archivos Latino-Amer de Pediatria, Buenos Aires

April 1922 **16**, No 4

Case of Recurring Limp Chorea Mamerto Acuna and Vallino —p 241
Artificial Feeding of the New Born F Davidsohn —p 247
Protection of Infants of Wetnurses Maria Armand Ugón —p 265
Skim Milk for Sick Infants J A Bauza —p 274 Cont'd
*Prurigo in Inherited Syphilis M. A Guerrero —p 284
*Purpura in Pneumococcus Infection I Bazin —p 290
Appendicitis Simulating Kidney Tumor F Rodriguez Gomez —p 300
*Incomplete Form of Scurvy in Children L Wimmer —p 304
*Familial Ichthyosis M Valabrega —p 312

Hebra's Prurigo in Inherited Syphilis —Guerrero reports two cases in children of 3½ and 6 cured by specific treatment for the inherited syphilis The prurigo in both had been refractory to all kinds of local measures for months and years, and even to vaccine therapy but it subsided in a few days under mercurial treatment The clue in one case was first given by evidences of inherited syphilis in another child in the family The cure has been complete during the year to date

Purpura in Pneumococcus Infection —Bazin reports two cases in which purpura developed in infants with pneumococci in the blood He summarizes further seven similar cases from the records All were fatal

Incomplete Form of Scurvy—Wimmer refers to a condition with punctate petechial hemorrhages which he has observed in a number of improperly fed young infants He ascribes it to abortive scurvy rather than to purpura As the food is corrected the condition returns to normal Its rapid development and equally rapid subsidence confirm this assumption of its nature

Familial Ichthyosis—In the family tree reproduced by Valabrega, there are four men and three boys with ichthyosis in three generations He gives illustrations of two of the children

Semana Medica, Buenos Aires

April 20 1922 **1** No 16

*Colectomy for Chronic Fecal Stasis P Barbieri —p 617
Mitigation of Anthrax Bacillus A C Marchisotti —p 622
*The Inheritance of Syphilis J Palacio and A Moral —p 624
Improved Technic for Gastro-Enterostomy R Rodriguez Villegas —p 641
Classification of Purpura L K Wimmer —p 643

Colectomy for Chronic Stasis—The woman of 58 had a movable right kidney, and her symptoms had long been ascribed to this, but they all subsided after the portion of the colon that had been bound down by the membranes had been resected The membranes themselves had been resected at an operation five months before, but the intestine had been too much deformed to recuperate There was no shock from the extensive colectomy

The Inheritance of Syphilis—Palacio and Moral ascribe the transmission of syphilis exclusively to the mother The father transmits it only through the mother, and affects the child only through the dystrophia of the spermatozoa When the mother is infected, the child is always infected and vice versa Latent tertiary syphilis in both parents induces dystrophia of the reproductive elements, but the disease is liable to flare up under the influence of gestation in which case the child is liable to have congenital infection as well

Archiv fur klinische Chirurgie, Berlin

May 13 1922 **119**, No 4

*Resection of Large Intestine. W Hartert —p 643
*Diagnosis of Noncarcinomatous Gastric Tumors C Dessecker —p 695
*Peptic Jejunal Ulcer H v Haberer —p 712
*Regeneration of Bone Marrow in Pernicious Anemia Walterhofer and Schramm —p 766
*Injection of Antiseptics into Joints G Axhausen and L Frosch —p 774
*Diagnosis of Traumatic Injury of the Spine C Gocke —p 787
*Operations on Posterior Cranial Fossae W Mintz —p 825
*Hour Glass Tumors of Spine N Guleke —p 853
*Atresia of Rectum and Anus W Oppel —p 845
Tube for Indirect Transfusion of Blood H F O Haberland —p 849
*Mouse Cancers Correction Lubarsch —p 852

Resection of Large Intestine—From the experiences at the time and later in 43 operative cases of cancer of the large intestine Hartert has been impressed with the absolute necessity for preventing any soiling of the tissues with fecal matter at any stage of the operation or operations With end-to-end suture, moderate invagination of the afferent in the efferent stump materially strengthens the suture The relative stenosis entailed is transient In Korte's compilation in 1913 of 434 radical operations for cancer of the large intestine 61 3 per cent survived the operation and 38 3 per cent of the survivors were free from recurrence for over three years that is, 23 5 per cent of the total 434 patients were cured for three years at least The corresponding figures in Hartert's group of 28 surviving of his 42 cases in Perthes service show that 39 1 per cent of the 23 traced to date are still free from recurrence for three up to ten years There were no operative fatalities in the 14 cases in which the resection occurred without soiling with feces, either at the main operation or the succeeding ones To insure asepsis in making a fecal fistula he sutures the serous membrane of the bowel to the edges of the incision in the skin with as much care as for an intraperitoneal suture of the bowel He also covers the suture with a paste and introduces a fistula apron of impermeable tissue, the edges sutured tight to the bowel serosa He refrains from suturing the bowel to the parietal peritoneum, fearing further manipulations He prefers a jet of steam for sterilization of the intestine content but warns against the excessive use of this or of antiseptics Resection at one sitting is preferable for cancer of the large intestine not only when there are no complications but also when there is ileus so long as peristalsis is vigorous. Several pages of bibliography are given

Noncarcinomatous Gastric Tumors—Dessecker advocates pneumoperitoneum as a last resource in the differential diagnosis of a nonmalignant tumor on the outside or inside of the stomach Tumors in the stomach wall and solitary polyps are beyond our differentiating skill An exogastric tumor is liable to pull the stomach out of shape The funnel-like protrusion of the stomach wall into the pedicle of the tumor is characteristic as also the smooth outline of the endogastric growths and their movability on palpation during radioscopy with the stomach of normal shape He illustrates a case in which a segment of the stomach was resected containing a fibroma as large as a hen's egg with ulceration at three points The few cases on record of myoma, fibroma solitary polyps etc are compared with this case, and he adds that there are about 200 cases of primary gastric sarcoma known He cites 3 cases in which the sarcoma had developed on the exterior of the stomach

Peptic Jejunal Ulcer—Haberer's experience condemns exclusion pyloroplasty as inviting peptic ulcer, although the latter may follow gastro-enterostomy alone The first Billroth method seems the safest for operative treatment of the stomach from this and other standpoints The diet must be strictly regulated after any operation on the stomach, he does not allow solid food for two weeks A peptic ulcer may recur in operating for this the resection should be on the same principle as the first Billroth method He gives the details of 26 cases of peptic jejunal ulcer treated by radical resection In 2 cases the ulcer was a recurrence The primary lesion had been in the duodenum in 23 cases and in the pylorus in 8 Pyloroplasty had been done in 18 of the total cases in the others intervention had been restricted to posterior gastro-enterostomy A jejunal peptic ulcer never was observed after any of his own 865 cases of resection of stomach or duodenum but there were 12 instances of it in his 71 cases with exclusion of the pylorus, and in 3 of his 275 gastro enterostomy cases

Regeneration of Bone Marrow in Pernicious Anemia—Walterhofer and Schramm reported a few months ago the favorable influence on the course of pernicious anemia observed when part of the marrow of one tibia or femur was

scooped out Four of the nine patients thus treated have died since, and they here describe the regeneration of the marrow observed in these four fatal cases Death had occurred from secondary infection in two The regeneration process seemed to correspond to what is observed experimentally in healthy dogs, only that it occurs more slowly, probably on account of the age There does not seem to be any anatomic insufficiency of the bone marrow in pernicious anemia The favorable influence from the operation is evidently due to the stimulation of the bone marrow therefrom, and the perpetuation of this stimulation by the regeneration

Injection of Antiseptics into Joints—The experiments on fifty rabbits warn against prophylactic injection of strong antiseptics into joints

Traumatic Spinal Affections—Gocke reviews the ultimate outcome in fifty-five cases of injury of the spine, with or without nervous symptoms This experience has convinced him that Schanz' insufficientia vertebrae is based on mistaken premises, but it has served to deepen our knowledge of disease of the spine

Operations in the Posterior Cranial Fossae—Mintz remarks that scarcely anywhere else is there such an accumulation of unfavorable factors as in operations on a posterior cranial fossa And yet he is able to report cures in 25 per cent of twenty-six cases of a tumor in this region (16), cysts in or below the cerebellum a hydatid cyst (3) or serous meningitis Postoperative hydrocephalus is liable to stretch the tissues and tear open the scar This is the usual cause of the insidious meningitis after operations in the region

Vertebral Sarcomas—Guleke describes three cases of hour-glass tumors in the spine which grew through the intervertebral openings and spread out in the muscles and spaces beyond The portion in the muscle tissue may grow very large, but these fibrosarcomas develop slowly and seem to be comparatively benign for a long period Operative measures have every chance for success He illustrates his three cases and describes the preferable mode of access One of his patients, a farmer, now 30, was operated on nine years ago, and has been free from all disturbances since One boy of 11 succumbed to secondary infection from a fistula, and a young woman to infection of a hemopneumothorax that had followed the removal of the tumor All the patients bore the operation well

Atresia of Anus and Rectum—Oppel operated on the otherwise normal and vigorous new-born child by cutting the anus on each side and extending these incisions The blind stump of the rectum lay 3 cm above, and this was mobilized through an abdominal incision, and was then sutured to the posterior half of the anus Through the anterior half, tampons were introduced separate from the rectum The tampons were gradually removed and clinically normal conditions were restored in time

Deutsche medizinische Wochenschrift, Berlin

April 21 1922 **48**, No 16

Problems of Metabolism F Müller—p 513 Conc n No 17 p 545
Testing Renal Functioning H Schlrokauer—p 517
Localization and Phylogenetic Basis of Fatty Degeneration and Sclerosis of the Aorta Westenhofer—p 518
Lymphogranulomatosis V Hecker and Fischer—p 520 Conc n
Relative Size of Penetrating Gunshot Wounds More Particularly of the Skull Nippe—p 522
*Test for Occult Blood Gattner and Schlesinger—p 522
Eosinophilia in Muscular Rheumatism M Kaufmann—p 524
*Feeding Through Nose by Drip Method Samson and Baare—p 524
Personal Prophylaxis of Both Sexes as Aid in Establishing Approximately Sanitary Conditions Among Prostitutes Schereschewsky and Worms—p 526
*Removal of Pigmentations of the Skin G Kromayer—p 526
Ulcers of the Lips and of the Mouth Cavity Ledderhose—p 527
Technic of Treatment of Gonorrhea M Joseph—p 529

Quantitative Test for Occult Blood—Gattner and Schlesinger have found that the reaction to benzidin strictly parallels the quantity of blood present, from the largest to the minutest amounts, even with occult hemorrhage The tint durability and sensitivity are directly proportional to the amount of blood in the fluid With a set of tubes and serial dilution it is possible not only to detect the occult blood in the stool but to determine whether it is increasing or diminishing from day to day They describe the exact technic they have found most convenient for this

Feeding Through the Nose by Drip Method—Samson and Baare relate that they have tided new-born infants with pylorospasm along by this means until the spasm subsided, and the infant came out from under it without the usual signs of inanition When the infant lies quietly, the tube can be left continuously in the nose, fastened to the brow and cheek with a couple of strips of adhesive plaster When it is restless, the tube has to be withdrawn and replaced at need They found human milk the best to use for this drip feeding, and report two cases in detail The absence of sucking and vomiting movements and of overfilling of the stomach does away with some of the factors inciting to vomiting, and thus aids in overcoming the tendency to spasm This drip method might be used for duodenal feeding, and supplying water

Removal of Pigmentations of the Skin—Kromayer describes a method of removing freckles, small nevi, liver-spots, etc The object is to remove the epidermis and along with it the pigment-bearing epithelia without injuring the cutis propria The method is adapted from dental technic According to the size of the blemish, the tissues are frozen or infiltration anesthesia (procain, in a 1 150 or 1 200 solution) is employed A burr of the proper size is chosen and is rotated in the same manner as in dental technic The teeth or edges of the burr seize hold of the tissues of the epidermis and the cutis vasculosa, whereas the cutis propria, which should be spared in order to avoid scar formation, is left intact unless strong pressure is applied It is well to begin at the lower end of the field and work upward When hemorrhage and serous transudation following the operation, have ceased, the wound surface is covered with a very thin layer of cotton fibers which stick to the wound surface, dry, and form an artificial scab In from ten to fourteen days (earlier, if the defect is small) the scab drops off The site is red at first but after two months all trace of the operation has disappeared The method is excellent for large liver-spots

Deutsche Zeitschrift fur Chirurgie, Leipzig

April 1922 **170** No 1 4

*Diphtheria of the Esophagus W Stupka—p 1
Appendicitis in Hernial Sac E Otto—p 53
Fibrous Osteitis H Sauer—p 95
*Blood Pressure During Local Anesthesia O Wiemann—p 150
*Reconstruction of Face A Lindemann—p 182
*Treatment of Inflammation R Eden—p 209
*Wound Diphtheria Hilgenreiner—p 266

Diphtheria of the Esophagus—Stupka tabulates the details of 34 cases of fatal diphtheria of the esophagus, published by 24 writers in the course of a century He also tabulates 9 cases of postdiphtheric stenosis, and describes with roentgenograms 2 cases in his own experience In 4 of the total 11 cases the stenosis was multiple One patient was a new-born child, the oldest was a woman of 42 Dysphagia is the most common and important symptom, but it is usually ascribed to the throat process Expulsion of a cast of the esophagus was observed in 5 cases, but as a rule diphtheria of the esophagus escapes detection There is ulceration at first and then cicatricial stenosis in the course of two or three months Measures to prevent development of stenosis should be applied early A retention sound has been applied with excellent effect by three clinicians lately, to ward off stenosis after swallowing a caustic and he suggests the possible advisability of this with diphtheria involving the esophagus It is especially advisable here as the ulcerative process with true diphtheria does not burrow deep

Fibrous Osteitis—Sauer's discussion is based on twelve cases, all but one in girls or women

Blood Pressure During Local Anesthesia—Wiemann reports from Konig's service research on the blood pressure and the pulse during and after procain-epinephrin anesthesia

Reconstruction of Parts of the Face—Lindemann is chief of the *Kieferklinik* at Dusseldorf, and describes correction of some unusually grave war disfigurements of the face

Physical Chemistry in Treatment of Inflammation—Eden analyzes the various phases of an inflammatory process, and explains how treatment must vary to meet these different phases Hyperemia must be stimulated in one phase and checked in another He ascribes great importance to the protecting action of a coating of fibrin on recent wounds and granulations He emphasizes that none of the disinfectants proposed to date answer surgical requirements Test tube experiments and experiments on animals are no criterion of the action on living tissue The manifold peculiarities of clinical conditions cannot be reproduced in vitro nor in animals The search for the ideal disinfectant, he says, should be along the lines of research on ions and the laws of molecular absorption and dispersion the chemistry of colloids, and the effect on bacteria of modifications in osmotic tension Colon bacteria, for example, disintegrated when transferred from a 0 75 to a 2 per cent saline, although the latter is not strong enough to be bactericidal Colon bacillus infection of the urinary apparatus has responded very favorably in his experience to treatment with 20 per cent solutions of sugar

Wound Diphtheria—Hilgenreiner's experience suggests the wisdom of examining the secretion for diphtheria bacilli when a wound does not heal properly There may be nothing to suggest diphtheria otherwise. In a case described, the relics of an abscess in the breast refused to heal for four months until they finally yielded to a mercurial salve All kinds of treatment had been applied to no avail before

Klinische Wochenschrift, Berlin

March 4, 1922 **1**, No 10

Goiter Enderlen—p 457
Clinical Examination of Pulse in Arrhythmia C Lundsgaard—p 461
Periarteritis Nodosa W Gerlach—p 467
Prognosis of Serous Pleurisy in Children W Neuland—p 470
Is Metreurysis a Proper Safe Procedure for the General Practitioner in Placenta Praevia? W Hannes—p 472
Mode of Action and Stability of Vaccines C Lange—p 475
Effect of Sodium Acid Phosphate on Bodily Performance H Herxheimer—p 480
Mode of Action of Shepherd's Purse Heffter and Zondek—p 483
Effect of Proteins on Rate of Sedimentation of Erythrocytes H Lohr—p 483
Treatment of Suppuration in Fingers F Härtel—p 484
Recent Research on the Chemistry of the Splitting of Sugars into Alcohols J Hirsch—p 489

March 11 1922 **1**, No 11

Meteorology and Climatology from Practitioner's Standpoint C Dorno—p 505
Paralysis Agitans and Tetany Associated with Cerebral Arteriosclerosis. P Martini and A Isserlin—p 510
Intracutaneous Injection of Graduated Hydrogen Ion Concentrations R. Wagner—p 511
Focal Reaction in Eye in Protein Therapy G Tobias—p 515
Phenobarbital in Motor and Psychic Excitement. H Krisch—p 518
Mercury Not Only a Symptomatic Remedy But One Affecting Favorably the Course of Syphilis J Heller—p 519
Qualitative Undernutrition Beriberi in Rats Hofmeister—p 522
Influence of Blood Vessels of Liver on Water Content of Organism and on Hemoclastic Crisis H Mautner and G Cori—p 523
Tuberculous Gibbus with Lordotic Cyclic Albuminuria Neukirch and Rottmann—p 523
Treatment of Trigeminal Neuralgia Sonntag—p 524 Concn No 12 p 586
Treatment of Malaria M Mayer—p 527
Medical Impressions of America H Holfelder—p 531
Potassium in Relation to Physiologic Radioactivity H Zwaardemaker—p 535 Concn No 12 p 594

Medical Impressions of America—Reviewed on page 153

Medizinische Klinik, Berlin

May 7, 1922, **18** No 19

Present Status of Schick Reaction A Czerny—p 587
*Serotherapy of Diphtheria U Friedmann—p 58
*Blister Fluid in Serodiagnosis A Buschke—p 593
Leukocytosis Inducing Treatment O Fischer—p 594
Chronic Urticaria Subsides Under Acriflavine by the Vein Three Cases O Strassen—p 597
*Epinephrin Production in Various Diseases B Peiser—p 597
Meningitis in Young Children K Bluhdorn—p 601
Examination for Disease of Urethra E Portner—p 603
Traumatic Neuroses H Engel—p 634 Contin
Recent Literature on Public Health H Ziemann—p 606

Treatment of Diphtheria—Friedemann insists that his experience with 4,000 cases of diphtheria in the last seven years has demonstrated that successful treatment is merely a question of the dose of antitoxin in the overwhelming majority of cases The difference between the effect of large and small doses was most striking in the edematous form of diphtheria His statistics from various German and Austrian hospitals show a death rate from this disease from 11 7 to 15 2 per cent since 1914, while Friedemann had only a death rate of 6 per cent in 3,421 cases, and only 4 3 per cent in the cases treated with 20,000 units In two cases of the severest necrotic type, the children recovered under a total of 60,000-90 000 units

Serodiagnosis from Blister Fluid—Buschke remarks that the serum in a cantharides plaster blister responds to the Wassermann and the tuberculin tests like the blood serum but with less intensity The assumption is gaining ground more and more that the skin is an organ with an internal secretion and plays an important part in the production of defensive substances This is evidenced, among other things he says, by the more generally favorable course of syphilis when a rash develops under mercurial or arsenical treatment

Leukocytosis Therapy—Fischer thus designates what others call protein therapy, and he explains its action as inducing the flaring up of inflammatory processes His reports on the use of sodium nucleinate for this purpose in general paresis have been summarized recently (June 10, 1922, p 1855)

Influence of Disease on Epinephrin Production—Peiser reports contradictory findings in regard to the epinephrin content of the blood in various diseases Only in 9 cases of peritonitis was it constantly low—down to 1 73 mg—in 88 89 per cent In tuberculosis it was usually within normal range as also in 12 cases of carcinoma, and one each of sarcoma and actinomycosis The only other constant finding was an increase of almost 50 per cent in all the 11 cases of valvular defect instead of the average 3 05 it was 4 78 mg

Traumatic Neuroses—The official report on two cases is explained and amplified

May 14 1922 **18**, No 20

*Obstetrics Without Vaginal Examination H Kupferberg—p 617
Chemotherapeutic Differentiation of Spirochetes in Rabbits W Kolle and R Ruppert—p 620
*Menstrual Disturbances in the Tuberculous E Guth—p 622
Significance of Duplication of First Heart Sound H Sachs—p 625
*Fatal Ascarid Intoxication E Weber—p 626
Inhalation of Lignosulfit R Giesbert—p 626
Neosilversalvarsan F Hanemann—p 627
Clinical Import of Gas Interchanges P Liebesny—p 628
Rudiments of Treatment of Gonorrhea E Portner—p 632
Traumatic Neuroses H Engel—p 634 Contin
Recent Literature on Internal Medicine F Bruck—p 636

Obstetrics Without Vaginal Examination—Kupferberg comments that further measures will have to be devised to combat the increasing number of cases of puerperal fever They have doubled in the last five years, although the number of births has declined As a step in the right direction, he urges that the vaginal examination should be done two or three weeks before term, and after this, no further internal examination or procedures should be allowed until eight days after delivery, except by the rectum For this the forefinger in a rubber cot is covered with a square cloth the size of a handkerchief, with a 2 cm slit in the center, through which the finger is slipped By this means the finger is protected against soiling The cloth can be dipped in an antiseptic If the hard skull bones fontanels and sutures cannot be felt through the rectum then face, shoulder or breech presentation is obvious, and further differentiation is easy from without He warns against mistaking the sinking pains late in pregnancy for labor contractions, reporting two cases in which after two and three days of alleged labor pains, forceps was applied or the cervix slit in four places In both cases the cervix had not opened—as might have been ascertained by rectal examination The slit had been made in a fold in the vagina wall, and the forceps had been applied to the head capped entirely by the uterus wall, stretched to its utmost. The mistake was recognized in time in both cases A number of minor points to aid in delivery are enumerated

Menstrual Disturbances with Pulmonary Disease—Guth has noticed that the course of pulmonary tuberculosis was generally favorable when the menstrual periods were long

and free from premenstrual rise in temperature When a previously long period became shorter, this was a sign of improvement or acute exacerbation When the menstrual period was not modified either way, the disease seemed to be a recent infection, and the course was less favorable A period of less than three days was found only with anemia or chlorosis, and there was generally dysmenorrhea

Ascaridiasis—The girl of 11 died in twenty-four hours with symptoms of peritonitis plus ileus, explained by obstructing clumps of ascarids—60 in all—and corresponding toxic injury of the mucous membrane In a second case, in a girl of 4, the toxic injury was more insidious, and the previously robust child died in two weeks from increasing weakness and heart failure

Monatsschrift fur Geb und Gynakologie, Berlin

April 1922, **57**, No 5

*The Blood Pressure in the Pregnant K de Snoo—p 235
Anatomy and Physiology of the Placenta O Frankl—p 244
Congenital Displacement of Kidneys H Baumm—p 247
Cesarean Section after Vaginofixation for Prolapse H Hillel—p 252

Importance of the Blood Pressure in Obstetrics—De Snoo combats high blood pressure in the pregnant by repose and dieting He regards the course of the blood pressure as a better index of conditions than albuminuria If the pressure drops to normal, the intoxication can be regarded as being at an end for the time being In eclampsia, the high blood pressure is evidently a means of defense although it brings danger of convulsions, exhaustion of the heart, cerebral hemorrhage, etc Every woman with a high blood pressure should keep quiet during the last months of pregnancy whether there are any symptoms or not Systematic examination of the blood pressure is indispensable during pregnancy 'It is the compass with which we often can steer the frailest bark into the harbor of safety" He has never known a case of eclampsia or impending eclampsia without high blood pressure With this we can distinguish eclampsia from hysteria, brain tumors, epilepsy, etc

Munchener medizinische Wochenschrift, Munich

April 21 1922 **69**, No 16

Indications for and Results of Application of Surgical Measures to the Thorax Among the Tuberculous War Wounded Burkhardt—p 575
Diagnostic Import of Speed of Sedimentation of Erythrocytes Burker—p 577 Idem in Pregnancy Ganssle—p 578
Physicotherapy in Relation to Deep Lying Tissues Zondek—p 579
Kidney Disease after Angina Kayser Petersen and Schwab—p 580
Own Urine Reactions H Boeminghaus—p 582
*Pruritus with Endocrine Derangement L Szondi and L Haas—p 584
Staining Spirochetes with Aid of Neo Arsphenamin Krantz—p 586
Prophylaxis of Goiter Bleyer—p 587
Treatment of Leg Ulcers L Simon—p 589
Atresia of the Esophagus N Ellerbroek—p 591
Ultraviolet Rays in Varicella A Sack—p 591
Device to Aid in Measuring Blood Pressure F Kleinknecht—p 592
Method of Lighting Roentgen Room E Haeger—p 594
Splint for Upper Arm Fractures H Legal—p 594
Hand Grasp for Artificial Leg K Stromeyer—p 596
Local Vaccine Therapy in Furunculosis A von Wassermann—p 596
Importance of Care of Teeth During Pregnancy Bjorkenheim—p 597

Pruritus as Symptom of Polyglandular Insufficiency—Szondi and Haas state that of ten patients suffering from essential pruritus which did not respond to the usual dermatologic treatment they found in six cases typical pluriglandular insufficiency, and in the remaining four patients there was dysfunction of at least two endocrine glands The changes of the genital glands, which other writers mention in connection with pruritus, are only partial manifestations of the pluriglandular insufficiency In their cases the pruritus was merely a manifestation of endocrine dysfunction plus hypersensibility of the peripheral sensory nerves The latter was caused by pathologic metabolism products entering the blood stream on account of the dysfunction of the endocrine glands The hypersensibility exists latent in the whole region of the peripheral sensory nervous system and will manifest itself in the form of itching where there is constant or frequent irritation An endogenous and an exogenous factor are thus necessary The endogenous factor consists of a definite constitutional or acquired abnormality of the endocrine system The most frequent exogenous factors are fluor, nodes, onanism, rubbing of the collar, etc The exogenous factor does not bring about the chronic itching except as the above-mentioned constitutional or acquired basis is present Causal treatment has not so far been able to effect permanent improvement In stubborn cases roentgen irradiation is recommended as symptomatic treatment

Wiener klinische Wochenschrift, Vienna

March 30 1922 **35**, No 13

Clinical Aspects of Cholelithiasis N Ortner—p 287
A Respiratory Apparatus for the Clinical Determination of Energy Exchange in Man A Krogh—p 290
Interesting Cases of Roentgenographic Diagnosis Holzknecht et al—p 293
Double Arch of the Diaphragm in Disease Hitzenberger—p 294
Tender Spots in Cecal Region in Relation to Chronic Appendicitis. V E Mertens—p 296
Dermatitis During Treatment of Syphilis J Klaar—p 297 Concn

April 13 1922 **35**, No 15

The Reticulo Endothelial System H Eppinger—p 333
Diagnosis of Paratyphoid B Bacillus J Furth—p 337
Diaphragmatic Hernia A Plenk—p 339
Lung Hydatid Cyst Simulating Aneurysm R Lenk—p 341
The Sodium Nucleinate Test in the Malaria Treatment of General Paresis H Kogerer—p 342
Syndrome of Discrete Tuberculous Meningitis N Blatt—p 342
Technic of Perineural Injections in Sciatica F Hogler—p 343

April 20 1922 **35**, No 16

*Dedication of New Institute for Embryology A Fischel—p 355
Paratyphoid A Herz—p 360
*Specific Bacteriophagic Action O Bail and T Watanabe—p 362
Oral Sepsis in Relation to Affections Elsewhere Hauer—p 365
Treatment of Various Forms of Sigmatism L Stein—p 367
Angina Pectoris M Grossmann—p 368
A Spirochete as Causal Agent of Typhus Fever A Belai—p 368

Evolution of Embryology—This address was delivered at the dedication of the new Institute for Embryology at Vienna Fischel traces the history of this science from the earliest times to date

Specific Bacteriophagia—Bail and Watanabe report the results of research which have apparently established that only the portion of the bacteria active in reproduction is affected by the bacteriophagic process They describe a process in the course of spermatogenesis in general which seems to be analogous to what is observed in this bacteriophagia

April 27 1922 **35**, No 17

Pathogenesis of Cirrhosis of the Liver F Chvostek—p 381 Cont'd
Effect of Certain Diuretics on the Tissues Molitor and Pick—p 389
Case of Congenital Narrowing of Trachea and Bronchi Absence of Wall Membrane of Trachea Plus Diverticulum Sankott—p 391
Simple Conservative Treatment of Suppurative Bartholinitis with Patent Outlet Duct H Weitgasser—p 393
Silicic Acid in Senile Pruritus F Luithlen—p 394
Augmentation of Effect of Cocain by Hypertonic Glucose Solution. W Zemann—p 394
Internal Antisepsis" Comment R Kraus—p 395

Zeitschrift fur Kinderheilkunde, Berlin

May 15 1922 **32**, No 5 6

*Food Requirement of Underweight Infants M Ambrozic—p 247
*The Chlorids and Digestion with Fat Rich Food A Salomon—p 271
*Fulminating Purpura in Infant Konig—p 282
*Aplastic Anemia in Child H Hummel—p 285
*Acute Atrophy of Liver in Child E Lyon and J Deutsch—p 292
*The Skulls of the Prematurely Born J Rosenstern—p 298
*Physical Properties of Food J Rosenstern and Lauter—p 316
*Dystrophia of Veins in Infants E Slawik—p 322
Esophagus Cyst in New Born Child Buttenwieser—p 352

Amount of Nourishment Required by Underweight Infants—Ambrozic compared the Heubner and the Pirquet systems for estimating the amount of nourishment needed by infants notably under weight His conclusion is that the amounts should be like those for normal infants of the same length, rather than computed by age or weight

The Chlorids in Infant's Blood—Salomon's tests on infants have confirmed that the chlorid content of the blood sinks while digestion is proceeding in the stomach Fat-rich food forms an exception to this rule, and he theorizes to explain the reason for this

Fulminating Purpura in Infant—The apparently healthy infant of 19 months died in two days after the onset of the

purpura Streptococci were cultivated from the blood and a positive Wassermann was also obtained

The Bone Marrow and the Blood Picture in Relation to Aplastic Anemia—Hummel relates that the patient, a boy of 12, belonged to a healthy family He succumbed to sepsis from infectious purpura after months of aplastic anemia Notwithstanding the blood findings indicating chronic aplastic anemia, necropsy revealed that the blood marrow was hyperplastic, abounding in leukocytes and eosinophil myelocytes, although the proportion of erythrocytes was small and there were few nucleated erythrocytes The case emphasizes that in study of anemias we must discriminate between the two functions of the bone marrow the production of blood corpuscles and the delivery of them to the blood stream Possibly puncture of the marrow, as Ghedini suggests, may prove instructive

Acute Yellow Atrophy of the Liver in Child—An apparently harmless jaundice in the boy of 3½ suddenly assumed a fulminating form The case confirms the assumption that occult gastro-intestinal infection may induce a catarrhal jaundice which may progress to acute atrophy of the liver

The Skull of the Prematurely Born—Rosenstern's tables confirm that the frontal fontanel is smaller the more premature the birth, and other anomalies were noted in the skulls of the thirty-eight prematurely born infants studied

The Physical Properties of Foods in Infant Feeding—Rosenstern and Lauter emphasize the importance of the form of the solution in infant feeding, presenting evidence that the scale of dispersion of the elements of the food, rather than its chemical composition, may be of decisive import in its action on the bowel In this preliminary report of their research on the different behavior of crystalloids colloids suspensions and emulsions, they show that colloids and fine suspensions seem to check diarrhea Albumin checks diarrhea both by its physical and its chemical properties while sugar both physically and chemically, promotes diarrhea The physical properties may be the explanation for the favorable action of albumin milk and buttermilk

Defective Development of Veins in Infants—Slawik reports clinical observations and histologic and experimental study of dystrophia of veins in infants He never encountered any actual varicose enlargement of the vessels in infants In one child the sequence was dystrophia of the veins in early infancy, then vasomotor instability, livid discolorations of the skin, and, later, dilatation of the left heart

Zentralblatt fur Chirurgie, Leipzig

March 4, 1922 **49**, No 9

Etiology of Peptic Jejunal Ulcer T Beer—p 282
Operation for Oblique Inguinal Hernia F Harth—p 285
Closure of Hernial Sac with Autoplastic Ligatures Frank—p 288
Invagination of the Appendix A H Hofmann—p 290

March 11 1922 **49**, No 10

Necessity for Repeated Sterilization of Instruments in Cancer Operations K Henschen.—p 314
*Case of Late Tetanus C Pochhammer—p 315
Modified Clamp for Blood Vessels F Harth—p 317
Detaching Epididymis to Lengthen Spermatic Cord Hofmann—p 318
Isolated Laceration of Lacteal in Mesentery from Kick of a Horse C. Brunner—p 320

March 18 1922 **49**, No 11

Cosmetic Incision for Temporary Division of Jaw F Konig—p 362
Etiology of Birth Palsy A Schubert—p 363
Epilepsy and Postoperative Tetany H Koetzle—p 365
*Abortive Treatment of Erysipelas J Kumaris—p 368
Modified Operation for Varicocele A Gregory—p 369

Abortive Treatment of Erysipelas—To check the spread of the initially localized disease and if possible to bring it to a standstill, Kumaris uses a small thermocautery, with which he performs a punctiform cauterization of the entire skin surface involved, at one sitting if necessary, under light anesthesia By thus thoroughly opening up the affected area, with the resulting hyperemia he endeavors to prevent the migration of streptococci or their injurious action on the organism In recent years he has treated five cases thus and the result was excellent in every case The infection was brought directly to a standstill The following morning the temperature ranged from 36 5 to 37 C and remained normal, the treated area was, for the most part, pale It was not in any case necessary to repeat the cauterization, there being no refractory areas and no extension of the affected area Refractory areas are prevented by covering very carefully the whole affected area, leaving no islands not cauterized Extension of the affection is prevented by cauterizing for from 1 to 2 cm beyond the borders of the erysipelas The parts affected were the gluteal region the thigh, the lower leg and the whole leg The last case presented a high fever, continual vomiting and stupor, the reddening spreading over the whole leg within forty-eight hours The leg was cauterized under light anesthesia, from the iliac crest down to the toes The result was astonishing The patient, who had been feeling wretched the evening before, was sitting up the next morning feeling perfectly well, with a temperature of 37 1 C

Zentralblatt fur Gynakologie, Leipzig

Feb 25, 1922 **46**, No 8

Refractometric Determination of Albumin in Edema Fluid in Kidney Affections of Pregnancy and in Eclampsia Hellmuth—p 290
Prolapse of Bulging Ureter Through the Urethra Mayer—p 296
Knotting of the Ureter R Hornung—p 304
Effect of Pyramidalis Fasciaplasty E Liek—p 308

March 4 1922 **46**, No 9

Ovarian Varicocele Its Clinical Importance Engelmann—p 329
Kielland's Forceps with Brow and Face Presentations Meumann—p 335
Alimentary Glycosuria in Diagnosis of Pregnancy J Hofbauer—p 348.
Comment on Midwifery Bill N Ellerbrock.—p 351
Invagination of Appendix in Gynecologic Operations Hofmann—p 353
Origin of Dropsy of Pregnancy M Beckmann—p 355

March 18 1922 **46**, No 11

*Division of Work in the Ovary H Guggisberg—p 402
Anterior or Posterior Cervical Cesarean Section Polano—p 407
Blood Coagulation in Deep Roentgenotherapy Henkel and Gueffroy—p 409
Etiology and Therapy of Extra Uterine Pregnancy v Oettingen—p 413
The Bier Zimmer Threshold Proteotherapy in the Treatment of Febrile Abortion W Nussbaum—p 424

Division of Work in the Ovary—Guggisberg has been trying a new mode of experimentation to throw light on the problem of division of work in the ovary He has reached the definite conclusion that the Graafian follicles must be recognized as producing an internal secretion His investigations lead him also to believe that there is no sharp division between internal and external secretion in the ovary, as has been maintained by some writers

Zentralblatt fur innere Medizin, Leipzig

March 11 1922 **43**, No. 10

*Blood Pressure in Relation to Diabetes. G Marañon (Madrid)—p 169

High Blood Pressure in Relation to Diabetes—Marañon regards the relation between high blood pressure and diabetes as very important but also as very obscure as yet His statements are based on 90 recently observed cases of diabetes He found the same as Kylin that when the diabetes occurred at a more advanced age arterial hypertonia was more common and more intense The question is, Does this express a causal relation or a mere coincidence? A systematic study of blood pressure in healthy persons 40 years old and upward shows a constant increase of pressure However, if we examine carefully the course of the arterial pressure and the diabetes in these cases it appears evident that in a considerable number of patients there occurs a period of arterial hypertonia for a variable length of time before the appearance of glycosuria and other clinical signs of diabetes When glycosuria finally appears it often happens that the hypertonia continues for several years and then decreases In the 90 cases mentioned he observed that, as a general thing, the high blood pressure decreased in proportion as the patient got farther away from the clinical onset of the diabetes Certain cases of hypertonia without glycosuria develop later into genuine diabetes Among those who, at about the age of 40, begin to show signs of high blood pressure there are a few in whom the development of a diabetic condition seems

likely In these there will be a more or less marked increase of blood sugar, a decrease of the carbohydrate tolerance, intense circulatory and nervous reaction to injection of epinephrin, and in certain cases the appearance of signs of a diabetic diathesis Of 22 cases of hypertonia without glycosuria he found hyperglycemia present in 14, or 63 per cent, which agrees with the findings of Hagelberg, Farini, and Williams and Humphrey, though opposed to Kylin's statistics Kylin found hyperglycemia only once in 15 patients with hypertonia

Mededeelingen v d Burg Geneesk Dienst, Batavia

1922 No 1 English Edition

*Leprosy in Sumatra L Bodaan —p 1
Te ts of Fatigue in Batavia Schoolchildren F H van Loon —p 25
Prophylaxis of Malaria During Harbor Construction Work W Schuffner and B Hylkema —p 47

Leprosy—This profusely illustrated article is by the missionary who has organized a model village for lepers in Sumatra, and made it so attractive that they apply voluntarily for admission Each one has his own house and garden, and their families can visit them at will Children born in the village are sent away for adoption when they are 3 years old, and none has ever developed leprosy to date

Nederlandsch Tijdschrift v Geneeskunde, Amsterdam

April 15 1922 **1**, No 15

*Acute Meningitis D Herderschee —p 1508
Bronchial Asthma as Nasal Reflex J C Henkes —p 1517
Phenomenology in Psychiatry H C Rumke —p 1523
Two Mosquitoes New to Dutch India N H Swellengrebel —p 1535
Gangrene with Sepsis J J van Leeuwen —p 1537
Consequences of Exclusion of Intestine C P van Nes —p 1544
Visits to American Hospitals F Bergsma —p 1560
Extra Expense of Proprietaries A Molema —p 1566

Acute Meningitis—Herderschee states that there was no headache in 4 of his 82 cases of suppurative meningitis, no stiffness of the neck in 5, and no Kernig sign in 16 There was no headache in 6 of his 108 cases of tuberculous meningitis All died of the 17 in which the pneumococcus was found in the spinal fluid, also in the 4 streptococcus cases, and the one case with both the pneumococcus and the streptococcus, also in the one case with colon bacilli, and the one with *Diplococcus crassus* Only 3 died of the 8 with no micro-organisms found, and 31 of the 68 with meningococci One patient was left blind, another died two weeks after apparent recovery, and necropsy revealed unsuspected hydrocephalus Among 539 feebleminded in a Norwegian institution, 3 per cent were known to have had meningitis Ten Doesschate found disturbances of various kinds in 48 of 180 soldiers who had had epidemic meningitis from two to thirty-one months before, 54 had died In Herderschee's 108 cases of tuberculous meningitis, in 24 the hearing was impaired, 25 had nystagmus, 7, changes in the choroid and only a few were free from pains in head or back, early fatigue, etc Ptosis was noted in 42 per cent of the cases of tuberculous meningitis, strabismus in 53 per cent and anisocoria in 55 per cent In other forms of meningitis the corresponding proportions were *16, 23 and 29 The onset* was sudden in 5 per cent of his tuberculous cases, and in 53 per cent of the nontuberculous In one of the latter the apparently healthy boy came home from school at noon with headache, saying that the teacher had boxed his ears The boy died the same evening, and necropsy revealed the meningococcus meningitis

Asthma as a Nasal Reflex Neurosis—Henkes found abnormal conditions in the nose in all but one in a series of 12 cases of asthma of recent development and also in 40 of 48 cases of asthma of long standing In these 51 cases, the electric current applied to the middle turbinate bone induced a kind of wheezing sound in the breathing, and breathing became more difficult With pathologic conditions in the nose and pharynx, if this electric test is negative, the cause of the asthma must be sought elsewhere But if the test is positive, then treatment of the nose, pharynx or some sinus *is indicated* Insidious suppuration in the ethmoid cells is particularly liable to be responsible for this form of asthma He reports a case in which the asthma subsided permanently after the clearing out and healing of an abscess in the middle turbinate In families in which there seems to be a predisposition to asthma, he has seen the older children develop at times a difficulty in breathing, ascribed usually to nervousness He is convinced that this is the precursor of actual asthma, a sign of a pathologic reflex route from some anomaly in the nose In three children of this type the anomaly proved to be adenoids, or an inflammatory process in the nasal mucosa, or unsuspected suppuration in the ethmoid sinus All three had reacted with wheezing to the electric test, and none have displayed any respiratory disturbance since the cure of these processes He applied for the test a weak faradic current through an oval metal plate with an area of about 0 25 sq cm , the other electrode at the back of the neck In practice this test is seldom necessary It is enough to treat any abnormal conditions found If the asthma does not subside under this, then this electric wheezing test will reveal whether the cause is elsewhere, or more careful search should be made for it in nose and sinuses

Proprietaries Versus Official Drugs—Molema as a country physician is obliged to dispense his own medicines, and he has been impressed anew of late with the difference in price between the proprietaries and the pharmacopeial drugs He gives a list of ten of the more commonly used proprietaries with their wholesale prices, 10 kg totaling 573 florins, while the same amounts of their pharmacopeial equivalents total less than 160 florins He declares that the physician while guarding the health and strength of his patients should also guard their material interests

Hospitalstidende, Copenhagen

April 25 1922 **65**, No 12

*Ileus as a Consequence of Certain Congenital Anomalies E Dahl Iversen —p 189 Concn No 15

Ileus from Congenital Anomalies—Iversen does not include in this study atresia of anus or rectum, diaphragmatic hernia and diverticulum of the ileum He has compiled 36 cases observed in Denmark, 4 were encountered in his service in a two year period In 2 of these there was volvulus of the small intestine, in another there was multiple atresia of the small intestine, and in the fourth, a fibrous band bound down the duodenum This last child seemed to have been cured by the excision of this band, but after a week of progressive improvement the vital functions seemed to flag and the infant died from inanition The operative shock or the narcosis may have been responsible for this, notwithstanding the interval of a week of improvement He gives the details of the Danish cases, and notes the symptoms that point to the site of the obstruction The ileus may not develop for several weeks or months after birth or not until some cow's milk clot or chunk of food obstructs the previously permeable stenosis One infant with green vomiting from birth recovered after entero-anastomosis to exclude the infrapapillary portion of the duodenum, the seat of atresia This male child has developed normally during the six years since He knows of only 3 other cases in international literature of successful operations on infants for ileus from congenital anomalies Entero anastomosis had been done in 2 and an obstructing band severed in the others In 7 of the Danish cases the ileus did not develop until the age of 3 up to 56 years

Hygiea, Stockholm

May 16 1922 **84** No 9

*Rales with Artificial Pneumothorax S G Lindblom —p 337
*Tumor in Soft Palate R Roman —p 350
Recent Research on the Blood Pressure E Zander —p 354 Reply E Kylin —p 355

The Rales with Artificial Pneumothorax—Lindblom warns not to forget that rales may be propagated from the collapsed lung to the other lung when therapeutic pneumothorax has been induced

Tumor in Soft Palate—The tumor was successfully removed from the woman of 78 It proved to be of the parotid-mixed tumor type The first symptoms from it had *been noted about eight months before*

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THE FUNDAMENTAL PRINCIPLES OF ORTHOPEDIC, RECONSTRUCTION AND INDUSTRIAL SURGERY

THE REAL LESSONS OF THE WORLD WAR*

H WINNETT ORR, M D
LINCOLN, NEB

In this section we should remember that in 1916 Col Joel E Goldthwait and four other members, Hibbs, Henderson, Osgood and Allison, were appointed a committee on preparedness to arrange for our participation as orthopedic surgeons if the United States became engaged in the World War Our attitude then was one of high idealism, we were prepared to offer time, effort and even life if necessary, in the service of our country and our countrymen

It is now a matter of history that the opportunity came, and that, in the spirit suggested above, Colonel Goldthwait and his associates made exactly the offer and the effort that was expected of them [1]

Now, however, if we attempt to discuss the results of that effort, in the spirit of today, we are very likely to develop a tone that differs greatly from that which was used in 1916 There are those who not only disparage the effort, but who deny the patriotism of those who engaged in the orthopedic part of our campaign against the belligerent Central Powers There are also those who contend that the final victory of the Allies has brought us no good results of any kind In fact, there is so much confusion in politics and international policies, and in the affairs of the world in general, that it is difficult to discuss even questions of service and scientific progress and separate them, for special study, from other national and world affairs that are clamoring for attention

This puzzled and uncertain or even negative attitude is, perhaps, not entirely unreasonable It is difficult for one to devote oneself wholeheartedly to the solution of problems of surgical procedure and methods of physical reconstruction for his patients, when the surgeon himself is trying to rehabilitate after a period of military service Moreover, the situation is complicated when the soldier patient is more concerned about securing a cash bonus or compensation than he is about getting well

All of these things have a bearing upon the topic which I have selected for my address I feel that, with a little time for consideration, we can arrive at fairly definite conclusions as to some of the lessons learned from the war

FIRST PRINCIPLES

Our Surgeon General has said recently that the surgery of the war consisted chiefly in a "harking back to first principles" [2] This comment may or may not do justice to our two years of effort in the military service One might say that, if we really had successfully "harked back" to first principles, we might feel fairly well satisfied with the achievement After all, compliance with first principles is one of the things that surgeons have not done too well It does seem to me however, that this comment calls for both elaboration and explanation if we, as surgeons, are to get anything for our patients and ourselves out of our war experience

There were during the war certain occurrences in the surgical services that represented serious aberrations, if we consider them from the standpoint of first principles

Our concern, as orthopedic surgeons, has been chiefly with the prevention and correction of deformity, and with the restoring to useful citizenship of those who suffered by reason of the military service

Have we as surgeons learned anything new or profited in any way by our service in the hospitals in Great Britain, in France or in the United States?

I believe that it may be said that the character of such work is better at the present time than it was five years ago, and that it is better because of certain lessons learned in the army hospitals

Orthopedic or reconstruction surgery in this country is still very poorly done We have still many thousands of children and industrial workers who are crippled deformed and physically handicapped because of inadequate medical and surgical attention There are as yet insufficient hospitals We lack special training schools for selected vocations for the crippled, and there is even now no real public or even professional conception of what may be done in the prevention and cure of deformity, the relief of disability, and the retraining of the physically handicapped

To illustrate If only the splinting of fractures and infantile paralysis were promptly and properly done in the United States, the total amount of crippling and serious disability would be reduced by about 10 per cent Or if suitable measures were appreciated and encouraged by physicians to prevent and relieve foot strain, foot pronation and acquired foot deformities, another 15 to 20 per cent of our partially or totally disabled workers could be made more comfortable and more efficient With regard to the latter cases alone, Colonel Goldthwait's special training battalions in France furnished a lesson from which every city in

* Chairman's address read before the Section on Orthopedic Surgery at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Report of Committee on Orthopedic Preparedness Tr Sec Orthop Surg A M A 1917 p 248

2 Garrison F H History of Medicine Ed 3 Philadelphia W B Saunders Company 1921

this country could profit if the message were carried by our orthopedic surgeons and the other members of the medical profession

LESSONS FROM VARIOUS PROCEDURES

The war taught us that much disability and deformity may be prevented by adequate first aid treatment Our experience in this regard, though less extensive, was just as convincing as the prophylaxis that succeeded so well in typhoid fever and tetanus It is only necessary to refer here, by way of illustration, to the saving of life and limb that was accomplished by the application of the Thomas splint in compound injuries of the femur, by splint teams on the battlefield The results achieved by this one procedure should be sufficient reason for placing Thomas splints and splint teams at every point in America where such accidents are likely to occur As it is, there are already hundreds of places where a Thomas splint had never been seen before, where there are now adequate provisions for the immediate splinting of such injuries

This section should acknowledge, as one of the outstanding achievements of the war the results of the labors of Goldthwait, Allison, Osgood, and Baer, in the simplification and standardization of splints and splint methods In this respect, at least, we caught step and I think even went ahead of our allies We are now certainly getting better results than formerly in the care of many industrial accident cases I believe that these results are due more largely to the earlier and better application of splints than to any other cause

In any discussion of progress in war surgery one of the first topics to be suggested is that of the Carrel-Dakin treatment of infected wounds The results of such wound treatment in a few instances were such as to give the whole subject almost an atmosphere of romance The rapid and obvious reduction in infection, the diminishing number of septic organisms, the improvement of the patient's general condition, and finally even the secondary closure of certain wounds made a strong appeal, both to patient and surgeon I believe I can say, however, that out of these very experiences we should get one of the important lessons of the war The field of application of the Carrel-Dakin method has already been fairly well realized and we shall admit without argument that the method has a certain, if limited, value

My principal point, however, from the standpoint of an orthopedic surgeon, is that neither the Carrel-Dakin method nor any other kind of wound treatment should be permitted to interfere seriously with the fundamental principles in the treatment of bone and joint injuries Those principles are, first, the immediate replacement, as nearly as possible, of injured parts in anatomic relationship, and second, the maintenance of immobilization ("enforced, uninterrupted, and prolonged"—Hugh Owen Thomas) of such injured parts in proper relationship until healing occurs

In other words, wound treatment of whatever kind must not interfere with splinting in correct position In the application of the Carrel-Dakin method, the disturbance of splints and the discarding of casts has been very common It is my belief that splinting should come first in compound injuries, just as it should in infantile paralysis In infantile paralysis, massage, electricity, manipulations, hydrotherapy and all other measures of physiotherapy are of secondary and minor importance as compared with splinting in correct position My attitude with regard to the Carrel-Dakin or any other forms of wound treatment (except drainage) in compound injuries is exactly the same, that is, they are secondary to correct splinting

This argument also brings up the old question as to splinting and stiff joints To this my answer is that stiffness, whether of the joint itself or of the adjacent soft parts, is due not to immobilization but to pathologic changes Such changes are always due to irritation, inflammation, tissue destruction and scar formation All of these are kept at a minimum, not by movement, but by rest The minor stiffness that is inevitable to the minor injury can be broken up after healing occurs The more serious stiffness that results from more serious injury cannot be broken up either at the time by poor splinting or by force later on

Another important war experience, and one which attracted much attention at the time, had to do with the so-called Willems method of the treatment of infected joints by keeping them in motion Accurate and careful adherence to the exact technic promulgated by Willems surely gave, and will give, good results in some acute septic joints (Careful splinting and sound healing will give the same results or better) On the other hand, experience taught us the great danger of keeping infected joints moving under any except ideal conditions I saw during the war, and have seen since, many cases of serious disability and severe deformity in which attempts were made to maintain motion in joint cases, which should have been protected and allowed to become stiff in better position

Even from one of the most brilliant procedures that came out of the surgery of the war—debridement—there are negative as well as positive lessons to be learned Certainly we saw that lives and limbs were saved by the early and complete removal of badly damaged and infected tissues That such procedures should be done only by skilled surgeons, however, is attested by the frequency with which principal peripheral nerves were sacrificed and serious disabilities resulted owing to bony and soft part defects

OCCUPATION OF DISABLED

One of the greatest lessons of the war is one in regard to which we, as a profession still have much to learn This is the lesson of the occupation of the sick and disabled Both in the army and out of it, we are still pursuing, with regard to our disabled, a policy which in many cases is bad for them and bad for us

This is the policy of compensation without directed or supervised employment It is true that we have a fairly elaborate machine set up for the vocational guidance and for the employment of our crippled discharged soldiers For our industrial cripples there is almost no provision whatever The fault now is not so much with the governmental agencies as it is with the general public and with the profession The employment of the idle presents a problem for the solution of which the intelligent cooperation of the entire community is necessary As long as idleness is permitted, and especially as long as it is encouraged, we shall have the problem of the unemployed, either lame or well Certainly, however, in institutions in which supervision is at hand, every inmate should be engaged, if possible, in some sort of useful occupation These occupations can be made educational and instructive as well as

remunerative and curative Then the individual will be on the way to real rehabilitation, socially as well as physically

We have passed, have we not, that period in human history in which power and possession were yielded to that one who was physically the strongest? We are supposed to have now a government which guarantees to us all equal rights for the enjoyment of life, liberty and the pursuit of happiness Are we not perhaps ready for the next step forward into an era in which, by common consent, we may give special opportunities, special privileges and special facilities for self help (instead of merely charity) to those who cannot—mentally or physically—keep up under the strain of competition with those who are fit?

CONSULTATION AND SUPERVISION

In spite of the arguments of those who fear and object to paternalism, I wish to say a word from our experience with the supervising consultant in the military hospitals It is an idea which remained firmly rooted in our surgeons, even after they became medical officers in the United States Army, that the hospital service and the patient assigned to any one became more or less his personal property One needs only to see the attitude of any surgeon now toward his hospital service and his hospital patients to find out how quickly he resents supervision, direction or even suggestions as to the care of his patients If any attempt is made to direct the care of any patient apart from the surgeon's invitation, he is at once affronted This feeling must, of course, rest on the assumption that the surgeon knows so much about his work that no one can tell him anything

Would it not be better for our patients to meet this question fairly and allow methods of treatment to be checked up by those who are competent to give an expert opinion?

In the military service, we certainly found hospitals surgical services and wards in which specially trained consultants were able to contribute much to the work that was being done I believe that it may be said that this is particularly true of consultants in orthopedic surgery At any rate, in orthopedic surgery, it was particularly easy to demonstrate the results of decisions as to treatment and the supervision of the care of patients by consultants I can recall instances in which a single visit by the consultant with a tape measure to a femur fracture ward resulted in correction of deformity, lengthening of shortened limbs, and the improvement of the condition of twenty or thirty patients in a single day

That this method might be applied in the same way to present day conditions and present day hospitals, I believe no one can deny It is my belief that a consultant in orthopedic surgery with correct ideas regarding the prevention of deformity could contribute to the welfare of many patients, to the improvement of their condition, and to the prevention of some deformity, in most of the hospitals in this country

I am not unaware of the objections to further inspection,' consultation and supervision by city, county or state officials of any kind I have some reason to believe that this sort of thing is being overdone And yet the chief objections to consultation and supervision come from those who in a sense, create the necessity for it We have many inspectors of all kinds who are incompetent and superfluous On the other hand, we have inspectors who are responsible for the fact that we are served with healthful meat and clean milk, that we enjoy a measure of police and fire protection, that we have paved streets and good roads, and that we enjoy many other privileges and immunities

In the same way I believe that it may be said that, in spite of any objections that may be raised, systems of hospital or community consultation in fractures and other serious injuries would raise the level of such treatment and bring about an era of better results It cannot be denied that many fractures are being treated today by those without proper training, skill or experience in such work

Other disabilities and deformity-producing diseases and injuries are being handled in the same way Standards of treatment and results definitely set down, and more or less rigidly enforced, seem to me to be the only answer And for this purpose a consultation scheme with the development of something like an "orthopedic conscience" seems to be necessary

POSSIBILITIES OF REESTABLISHMENT

The experience of the war has brought to our attention very forcibly the fact that our results in this class of cases are not as good as they should be In the draft, in the army hospitals, and since the armistice we found, and do find, disability and crippling that should have been prevented We constantly find instances of avoidable deformity And there are daily opportunities to replace in society and in industry cripples who are idle now because of the neglect of treatment and training

We have had splendid illustrations in our own country as well as in Great Britain, France and Italy of the meaning and methods of rehabilitation in the broadest sense Canada has shown us in a very striking way the possibilities of "reestablishment" In all the countries of our allies, as well as our own, surgical reconstruction is being admirably done to a certain extent

Moreover, we now know that congenital and acquired deformities are equally amenable to relief if we follow the fundamental principles of orthopedic surgery And, briefly stated, these fundamental principles are, first, to restore to and secure healing of parts (at *any time* after injury) in as nearly correct anatomic relationship as possible And second, we have surely learned that there are practically no limits to the possibilities of reestablishment of the individual by the educational and training development of original compensatory or vicarious functions

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Fighting the Drug Menace—The League of Nations recently held a conference in Geneva on opium, and Congress has passed a bill limiting the importation of drugs The medical societies are also assisting in the crusade by endeavoring to eliminate those who profess to be curing addicts by administering smaller, but continuous doses The drug problem has assumed such large proportions that a physician has been placed in charge of the special narcotic control division of the New York police department This agency has cooperated with other forces throughout the United States and foreign countries until a clearing house has been established to supply information regarding drug addicts and venders The narcotic division has already collected the finger prints of 20 000 drug users in this country, Canada and Europe It has been stated that there are from 250 000 to 400,000 drug addicts in this country alone, and that the habit results in an annual loss of $750,000,000 Narcotics valued at $3 500,000 were confiscated and destroyed in New York alone during 1921, and 3,086 venders or users arrested

THE OTOLARYNGOLOGIST IN THE SCIFNCE AND ART OF MEDICINE AND SURGERY*

J A STUCKY, M D
LEXINGTON, KY

It can be truthfully said that this is the greatest year in the history of medicine and surgery, especially in the branch of otolaryngology and, as has been said by others, "it is conceded everywhere that the eye, ear, nose and throat specialists have attained the rank of a major branch of medicine and surgery When one compares the meager, almost barren specialty of twenty-five years ago in this subject, with the wonderful advances of the present day, one is amazed at the development a quarter of a century has brought forth Its scope and dimension have enormously enlarged and become a powerful and far reaching organization"

For years we have believed that the Mekka of medical learning and training was to be found principally in Europe or in the eastern part of our country, but the war has proved that in every department of life this, our own country, now leads the world No longer does a trip to Europe confer especial prestige or advantage, because today medical Europe is destined to sit at the feet of medical America The tremendous development of the past twenty-five years has been due to American initiative and skill, and in this period this specialty has advanced from a minor to a major branch of medicine and surgery, entitling American men to be the clinical teachers of the world The Vienna of ophthalmology and otolaryngology belongs not in Europe but in America Because the science and art of medicine and surgery and its special departments are not fixed but are in the process of development, the rapid progress being made by study and research becomes more fascinating and stimulating than ever before It is also equally true that no one of these specialties can exist without the other, or independently of them, but every specialist must do or have done some of the work of the internist "The aggressive research work and advanced improvements in operative technic have so changed the principles of otolaryngology that the methods of a quarter of a century ago have no place in our ranks today", then we lived in the adolescent stage of the science and art of medicine, and our diagnosis and treatment were largely based on symptoms and theory, but in the past decade we have passed from adolescence into the manhood of humanity and with it into the manhood of the science and art of medicine, and today we are governed not by theory but by facts The East now turns to the West, and where the North, South, West and Middle West formerly turned to the East for instruction and training, they now look not to one alone, but to one another A recent trip to the West and Middle West convinced me of the great work being done by those of whom we have heard only too little, and it can be truly said that the South, West and Middle West are coming into their own in the field of otolaryngology From a scientific standpoint it seems that we have nearly reached the summit of the diagnostic and surgical technic in our special field

Those who consult us either have symptoms indicating disturbed conditions of the ear, nose and throat due to a local determinable pathologic condition, or else these symptoms are but local manifestations of systemic conditions, and, since either or both may exist, it is expected and demanded of the otolaryngologist that he be able to decide the question

It is now recognized that the average case of diseased nares, pharynx or larynx must be relieved by changes brought about from within the body and not from those without The efficacy of the nebulizer, vaporizer, atomizer and topical applications of any kind is found in relatively few instances, and they are not indicated except as palliative measures

When the disturbed or diseased condition is not a local manifestation of a systemic condition, but is due to a local condition, it is a surgical condition and must be dealt with as such, with skill, precision and accuracy equal to that required in any part of the body, if the surrounding area is to be left with function unimpaired To differentiate between the systemic and surgical etiology and to prescribe the proper treatment, or resort to the safest and sanest surgical procedure, requires a diagnostic skill and surgical technic based on a thorough knowledge of more than the fundamental principles of medicine Besides a knowledge of anatomy, physiology, chemistry, biology and pathology, we must know materia medica and therapeutics in order to be able to recognize and successfully combat the disturbed metabolism The responsibility of the otolaryngologist is not only different from, but greater than that of any other special branch of medicine and surgery, in that we must preserve or restore both ventilation and drainage in order that these organs may function normally

It is no longer sufficient that the otolaryngologist be a skilful technician, able to see into or through the many ramifications in this special field, he must do so with little or no irritation or traumatism, he must be able to recognize the abnormal or pathologic and, in the majority of instances, to verify his conclusions by laboratory findings To do the best work with the best results, the otolaryngologist must not only be thoroughly trained, but his training must be founded on a knowledge of the branches mentioned, to which must be added at least some knowledge and experience of the internist, and, since this is too large a field for the average man to master, he must have the help and cooperation of the laboratory expert, the internist and the roentgenologist With all these he must be a thoughtful observer, thoroughly trained, a student of current medical literature pertaining to otolaryngology, and must attend scientific meetings such as these, in order to be able to interpret correctly what his eyes see and his fingers feel

Knowledge of the therapy of nutrition, food and pollen sensitization, and mastery of the mysterious field of endocrinology, I believe, will soon aid us in answering the challenge of immunization and anaphylaxis This brings us again to the question of medical education, which has occupied so much of the thought of the teachers of medicine in the last few years I am in accord with the views of Dr R B Canfield of Ann Arbor, Mich, that

> A consideration of the entire undergraduate medical curriculum is indicated and, in order to take it up intelligently the history of undergraduate medical teaching in the country for the past forty years must be reviewed At first it was entirely clinical, then the importance of laboratory teaching was recognized and stressed by energetic and progressive workers all over the country In order to devote more time

* Chairman's address read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May, 1922

to preclinical work, the medical course was changed from two to three or four years, finally the premedical course was added and the combined course evolved, working toward two degrees At present the combined course of six years, leading to the degrees of bachelor of arts and science or doctor of medicine covers six or seven years and four or five years of this are devoted chiefly to preclinical work with the idea of securing a broader basis and education for studying clinical medicine While this seems too large a proportion of the time devoted to preclinical work, yet before any clinical course is cut down it would be wise to study critically exactly what is being taught throughout the undergraduate course, not only the names and courses with the hours devoted to them, but what is really in each course, and by comparison then with what is ideal, be better able to approximate the ideal Not enough hours are given to teach the student to see and recognize normal conditions of the ear drum, nasopharynx or larynx, let alone diagnose diseased conditions there, nor is there sufficient time to teach what every general practitioner should know The aim should be to graduate only doctors to care for the sick, without sacrificing anything essential in order to teach them preclinical work that is often forgotten before graduation, and could better be given to men in a postgraduate course, who wish to specialize in this line

The scope of otolaryngology has widened more in the last ten years than in any other branch of clinical medicine, and more time should be devoted to it The character of some of the preclinical work should be changed, courses should be cut down, and clinical work should be pushed farther back so as to give more time for clinical medicine and surgery

There seems to be an inclination to centralize authority in three departments, surgery, medicine and pathology, subordinating the so-called medical and surgical specialties of the three It would be a mistake to make heads of departments of clinical specialties, clinical professors, subordinate to full professors of surgery, and, if not overcome this tendency will lower the standard of teaching in the medical and surgical specialties and interfere with the progress in these departments Therefore a critical survey of the whole curriculum would be a good thing before any drastic change is made The chief function of the undergraduate school is to graduate young doctors, not specialists or expert technicians

The recent meeting of the Congress of American Physicians and Surgeons marks one of the most remarkable epochs in the history of medicine, in which otolaryngology occupied a conspicuous and important part Great progress was shown in the advancement made in the study of labyrinth function standardization test of hearing, and hitherto mooted questions in laryngology and rhinology were more satisfactorily answered Because of a nearer approach to scientific accuracy, the transactions of the three national societies which are a part of this congress (laryngologic, otologic and ophthalmologic) will contain a fund of information that none of us can afford to be without Two papers which were presented deserve especial mention, because of the startling facts brought out by two members of this section One of these was on "Some Unpleasand Local End-Results in Well Performed Tonsillectomies," by Dr C W Richardson of Washington, D C, and the other on "Fatalities of So-Called Minor Operations on the Nose and Throat Not Dependent on Anesthesia," by Dr H W Loeb of St Louis

What I have already briefly referred to should make us carefully consider the admonition of the president of the Congress of American Physicians and Surgeons, who says

The tendency to overspecialization in the practice of medicine has tempted many inadequately trained members of the profession to take up special lines of work There are too many specialists of this kind in practice today, and to correct this condition the members of this congress should promote and develop opportunities in various parts of the country for adequate postgraduate training in the several specialties of medicine and surgery

Dr Frank B Wynn, who has written "The Ten Commandments of Medical Ethics," says

Let it be granted that specialization, which has done so much for modern world progress, is likewise the chief glory of medicine, but we should not forget that as specialization in the commercial and industrial realm has led to narrow and selfish materialism, so is medical specialism in our day tending to forget man as an entity—a thinking, reacting aspiring being

Is it not meet at this time, therefore, that we seek a rejuvenation of medical ethics—not so much as a cold harsh rule of conduct, but as a revival of the finest things of professional life for which medicine in the past has always stood? In these days of arrant boastfulness by chiropractors, of preposterous claims by Christian scientists, with medical sects multiplying and breeding upon avarice, ignorance and erraticism should not the medical soul be aroused? Reviving the faith of our fathers, let us set the light of knowledge of the science and art of medicine and of medical ethics "upon a hill, that all the world may see and know the truth"

EFFECTS OF INTRATRACHEAL MEDICATION ON GAS BURNS OF THE RESPIRATORY TRACT*

LAFAYETTE PAGE, M D
INDIANAPOLIS

When we entered the war, the enemy was using mixed gases thrown over with shells from trench mortars and by heavy artillery The attacks usually began with gases which produced excessive sneezing and lacrimation, this being followed by the more poisonous gases mustard and phosgen Mustard gas, so called because its odor resembles that of mustard oil, classified as a vesicant causes inflammation, blistering, discoloration of skin acute conjunctivitis and intense inflammation of the respiratory passages Its action is caustic, the extent of damage or destruction of tissue depending on the degree of concentration and the time of exposure Its action may be delayed over a few hours to two or three days

Phosgen is classified as a lung irritant of suffocant type, which, in the alveoli and lung tissues, causes exudation of large quantities of frothy mucus, acute pulmonary edema and death, by flooding the air spaces

One of the most important and arduous duties of the throat and ear service throughout the war, after the introduction of poison gases, was the treatment of gas burns of the respiratory tract

The Allied Medical Service was completely overwhelmed for a time by the great number of casualties, and was without knowledge or means of proper treatment During my service in Base Hospital 32, located at Contrexeville, France, advance sector, from March 23, 1918 to the end of the war, 6,000 gas cases were received at our hospital for treatment Of this number

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

2 800 were regarded as serious, requiring special treatment of the upper and lower respiratory tract Frequent examinations were made of these patients, both by direct and indirect laryngoscopy, and, when the condition of the patient permitted, bronchoscopic examinations were made A number of patients died in convoy from the front lines to the hospital Necropsies were made in these cases, and water color sketches representing conditions found in the respiratory tract and lungs were made by an assistant

Our first observations were made on a convoy of patients received, March 23, 1918 These patients were principally from Companies K and M, One Hundred and Sixty-Fifth Infantry, Forty-Second Division, and were gassed in the Lorraine Woods, American sector March 21 and 22, 1918 The following history was obtained

The gas attack was made with shells thrown from mortars and heavy artillery and was concentrated around the dugouts of Companies K and M, One Hundred and Sixty-Fifth Infantry When the attack began, all had on their gas masks and kept them on for two or three hours, when they were informed by their officers that it would be safe to remove them Many claimed that they felt a burning sensation in the lungs while they had on their masks, but, from reports made by others, it was evident that they removed their masks too soon and that the masks afforded perfect protection while they kept them on The first severe effects of the gas were felt in the eyes, at varying intervals of from one to three hours The respiratory effect developed from a few hours to several days after the attack A number of these patients had no symptoms of gas poisoning until they had slept under blankets which had been exposed to the gas

We had rarely witnessed such suffering and distress as these patients manifested, with skin burned and discolored, eyes swollen shut, spasms of choking vomiting and struggling for breath, with the lungs literally drowned by their own secretions, they writhed in pain until they became unconscious from the want of oxygen

Nausea, retching and vomiting, with pain and oppression over the chest, were among the earliest and most persistent symptoms, followed later by coughing and spasms of the glottis, with excessive discharge of frothy mucus often mixed with blood Hemorrhages from the nose and lungs were among the rare symptoms A deeply cyanosed and lead-colored face, labored respiration, rapid pulse, restlessness, constant and spasmodic efforts to expel the profuse frothy expectoration was the usual clinical picture during the first few days The pain and distress in the lungs and epigastric region was often very intense

PATHOLOGY

The pathology of gas burns is similar to that of an escharotic chemical applied to the tissues If gas sufficient to produce serious effects is inhaled, there results an extreme engorgement of all the vessels and capillaries of the lungs, followed by the outpouring of a serous exudate from the injured bronchial and alveolar linings In this stage, the patient might be drowned by the edematous exudate which filled the lungs, to the exclusion of the air As in other inflammations of a severe degree, the outpouring of the fluid exudate from the blood is followed by deposit of fibrin on the injured surfaces Thus, the bronchial passages, already wholly or partially denuded of epithelium, became lined or even occluded by a fibrinous membrane similar to that seen in diphtheria This greatly hindered respiration and adhered to the mucosa with such tenacity that coughing was ineffectual to dislodge it Necrosis of the bronchial walls and lung tissue resulted in a varying degree from exposure to the gas These areas were, of course, promptly invaded by whatever bacteria were present in the respiratory tract, resulting in ragged, foul ulceration of the larynx, trachea and bronchi, and in multiple abscesses of the lung

After the first few days, the burned areas became infected and began to suppurate As the necrotic process advanced, large quantities of exudate consisting of broken-down tissue, tube casts, greenish-gray masses of membrane and sometimes necrotic lung tissue, were thrown off from the air passages During this stage, the breath was very foul from the gangrenous discharges, and the patient, utterly exhausted from absorption of poison and the constant spasmodic and ineffectual effort to expel the accumulated slough, very often would lapse into a semiconscious state

EXAMINATION

In the milder forms of mustard-phosgen poisoning, we found the nasal laryngeal and bronchial mucosa red, dry or edematous, in the early stages The general appearance was not unlike an ordinary laryngitis or bronchitis After a short time, the membranes began to pour out large quantities of mucus In many of these cases of mild gassing, the patients recovered in a few days, and, in those patients who had been exposed to a high degree of gas concentration, the mucosa showed an intense hyperemia and dryness at first followed later by flooding of the air passages with the frothy mucus, often mixed with blood After two or three days, the burned areas were covered with a fibrinous membrane These patches were found in the vestibule of the nose, on the turbinates and, in some instances, extending into the accessory sinuses The mouth and pharynx seemed to show resistance to the caustic action of the gases, owing, probably, to the character of the epithelial lining, while the larynx, especially the arytenoid region, seemed to be particularly vulnerable Burns were often found to be deep with infiltration and edema about the vocal bands, causing aphonia, which occasionally persisted for weeks and months The tracheal lining was usually burned in irregular patches In many cases, the entire lining of the trachea extending into the small bronchi was involved Edema of the lungs was always present to a greater or less extent when there had been exposure to the mixture of mustard and phosgen in any high degree of concentration Bronchopneumonia with multiple abscesses was not infrequently present

TREATMENT

At this time (March 23, 1918), when we received our first convoy of patients at Base Hospital 32, the Allies had not developed any treatment which was satisfactory for the effects of poison gases in the respiratory tract and lungs Rest, bloodletting, oxygen inhalation and warmth were found to be of value in general treatment There was a large list of contraindications, such as, no form of opiate for pain, cough and spasm, digitalis for heart disturbance was contraindicated Epinephrin had not proved of value and was thought to be dangerous Oxygen seemed to be the chief remedial agent recommended by the Gas Service, but as there was not an oxygen tank in our hospital center during

the early months of our service, we found it necessary to resort to other forms of treatment Alkaline washes and sprays apparently increased the suppuration and aggravated the condition We felt at liberty to institute any form of treatment that promised relief, and as I had had several years experience in the treatment of laryngeal and bronchial affections with intratracheal medication, it seemed to be applicable in the conditions arising from gas intoxication The first object of the treatment was to relieve pain and the exhausting spasms and ineffectual cough without the use of opiates, and next, to obtain better drainage of the lungs and respiratory tract For these purposes it was found intratracheal medication was the most effective Medication in oil solution was introduced with the tracheal syringe during inspiration Skilled assistants soon learned the trick of introducing the syringe and administering the medicated oils in the trachea and bronchi In some patients who were peculiarly sensitive to any kind of throat medication, it was at first necessary to spray the pharynx with a 2 to 4 per cent solution of cocain before introducing the syringe

The principal medicines used were solutions or emulsions in liquid petrolatum or olive oil, of either bismuth, iodoform, antipyrin, guaiacol or camphor menthol The following formula was found to be the most generally effective in the majority of cases Guaiacol, camphor menthol, 5 per cent of each in liquid petrolatum or olive oil From 1 to 3 drams of this mixture was introduced into the trachea two or three times a day in the severe cases

MODE OF ACTION

When the oil solution reached the deeper bronchi a few seconds after introduction the first effect produced was a cough, which expelled the contents of the bronchial tubes, often consisting of tube casts and diphtheritic membrane, grayish green, with pus, and other products of suppuration which had accumulated in the trachea, and which previous efforts of coughing had not been sufficient to expel The natural drainage of the lungs was facilitated by the action of the camphor menthol on the inflamed, swollen mucosa, while the guaiacol acted as an antiseptic and anesthetic The necrotic membranous exudate became more easily detached under the action of the liquid petrolatum, and easier breathing and better oxygenation were at once noticeable, as well as a diminution of the coughs and spasms Relief of pain, with a sense of comfort throughout the lungs, usually followed with rest and better oxygenation, the general toxic condition of the patient improved

Without exception, these patients expressed themselves as receiving great relief, and, when suffering, requested the treatment Those who received the treatment usually made a quick recovery, and most of them were able to return to the lines in a surprisingly short time, considering their condition when they entered the hospital

Of the 6,000 gas patients who passed through our hospital, only two died These deaths occurred within the first twenty-four hours after admittance

The results were so encouraging at Base Hospital 32 that the treatment was recommended in the official bulletin of the Allied Gas Service, in April, 1918

CONCLUSIONS

1 Intratracheal medication is clearly indicated in all forms of inflammation of the lower respiratory tract resulting from the caustic action of poison gases It should be used as early as possible after gassing, for the purpose of relieving the first symptoms of pain and asphyxia and reducing the extent of secondary infection, by facilitating drainage of the trachea and bronchi and rendering the passages as sterile as possible, through the antiseptic properties of the oil solutions

2 This method of treatment shortens the process of suppuration in the secondary stage by aiding the lung reflexes in expelling the necrotic membranes and products of inflammation, and in healing the ulcerated surfaces, thus relieving the strain on the nerve centers and checking the cough and spasmodic efforts to expel the debris and thus improving oxidation, diminishing toxic absorption and affording rest to the whole organism

3 Through shortening the healing process, the permanent damage to the pulmonary mechanism is lessened, there is less surface denuded of epithelium, less scar formation, less peribronchial thickening and, consequently less tendency to chronic bronchitis and predisposition to tuberculous infection

4 We are convinced from our observations and experience in using this treatment, before, during and since the war, that all forms of laryngitis, bronchitis, bronchiectasis and asthma, with all the different kinds of distressing coughs and spasms associated with these affections, are more quickly and effectually relieved by this form of treatment, and its use is urged in this class of disorders

Hume Mansur Building

ABSTRACT OF DISCUSSION

DR NORVAL H PIERCE Chicago I was chief of the surgical service at Vichy during the war and our hospital was supposed to be a head hospital so we should have seen a great many of these gas cases However, the exigencies of war compel me to say that as far as my overseas service is concerned I can tell you more about compound comminuted fractures than about gas burns of the upper respiratory tract In fact we saw very few severe burns of the respiratory tract We saw many more burns of the scrotum and of the lower extremities I believe Dr Page is right in recommending petroleum oil as an aid in the treatment of these cases of burns of the respiratory tract I do not think it makes much difference what you put in that oil It is largely the petroleum oil itself that does the work. Liquid petroleum has a remarkable influence in dissolving these fibrinous exudates I believe however, that an ingredient that would add to the efficiency of the liquid petroleum is oil of peppermint It has been pretty well proved that mucous discharge is saponified is largely made up of bubbles of air and that oil of peppermint will overcome the surface pressure of these minute globules of air Large collections of mucopus in the nose dissolve into almost nothing when liquid petroleum containing this oil is introduced I do not believe that the other ethereal oils have the same effect

DR BURT R SHURLY Detroit I was a neighbor of Dr Page in France just half a mile away, and we received an equal number of these gas cases It seems to me that this method of treatment should have a definite standardized basis for its usefulness Having used it for some years as an ordinary routine procedure I believe absolutely in its value in certain cases I used 2 5 per cent guaiacol and 2 per cent camphor-menthol in olive oil by intratracheal injection in a number of cases with decided palliative and beneficial effect I think this method should have a definite standardized use to be used in the same way as we would use sterile castor oil in the eye in case of burns At least it would be a palliative measure and give relief

DR WENDELL C PHILLIPS, New York This discussion should not close without emphasis being laid on the importance of this type of treatment in civilian practice I recall the first paper read on this subject before our American societies by Dr Thompson of Cincinnati, in which he emphasized the benefits that might be received in laryngeal and tracheal inflammation from intratracheal injections of remedial agents, with a base of sterile sweet oil I use 1 per cent menthol and 1 per cent guaiacol, emphasizing an intratracheal syringe Train patients to take this remedy and it is marvelous what relief they obtain in those peculiar and distressing inflammatory processes involving the larynx trachea and upper bronchial tubes I do not know how the inflammations of the grip type have affected patients in other parts of the country, but during the past winter in New York we have been confronted with patients suffering from a most distressing and persistent tracheal inflammatory process in which cough was the chief symptom This cough was so distressing that the patients became more or less exhausted, with a daily slight rise of temperature It was almost impossible to get relief from any form of treatment except intratracheal injections In my own practice, it is the standard, daily method of treating this type of case We had some trouble getting satisfactory syringes I have seen several varieties, but the one I get from Tieman & Company, New York, is the best It has a very short barrel and a sharp curve

DR LAFAYETTE PAGE Indianapolis Dr Pierce has emphasized the value of the oils in intratracheal medication as well as their use in the upper respiratory tract for dissolving and loosening inflammatory products In my experience camphor-menthol, as an addition to the oils, has proved of undoubted value in the treatment of nose and throat affections, and with the addition of guaiacol bronchial affections yield much more readily I am glad that Dr Phillips has given his experience with intratracheal treatment in the laryngeal and bronchial affections associated with the recent epidemic of influenza It is encouraging to know that such an experienced observer also shares my enthusiasm in the use of this form of treatment In the early stages of influenza, before the disease has invaded the lower respiratory tract, it has decided value as a prophylactic measure, later on, the distressing cough and irritation of larynx and trachea are more quickly and effectively relieved by this treatment than by any other known to me

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A STUDY OF HYPOTENSION*

STEWART R ROBERTS, M D
ATLANTA, GA

Hypotension is one of the indefinite problems of medicine Few articles have been written on the subject, compared to the large number on hypertension The studies thus far have been far more pharmacologic, experimental and surgical than clinical, and directly related to internal medicine This is shown by the researches of Crile,[1] Cannon[2] and Rich,[3] as compared with the paucity of researches by internists Huchard and Mougeot,[4] Grasset and Calmette,[5] Muenzer,[6] Knapp[7] Martinet[8] and Reynaud,[9] in Europe, and Piersol,[10] Emerson,[11] Lawrence,[12] McCrae[13] and Goodman,[14] in America, have discussed the subject from various points of view Faught[15] says that "unfortunately the literature almost entirely lacks exhaustive studies of low blood systolic pressures," and Goepp[16] says that "a little attention has been given to the subject, at least in its relation to chronic disease" Sir Clifford Allbutt[17] probably expressed the general feeling of internists when he wrote of hypotension that it is "a study that I have yet to begin" The research problems afforded by the subject are numerous and inviting

Each writer has arbitrarily stated his opinion of the lowest limit of normal systolic pressure and at what figure hypotension really begins There is no general agreement among internists as to the upper systolic limit of hypotension Janeway[18] placed the upper limit at 100 mm, and Oliver[19] at 125 mm The limit is stated in terms of palpatory readings by some authors, and in terms of auscultatory readings by others Each series of hypotension pressures tends to vary according to the opinion of the writer as to what constitutes hypotension, and this in turn varies according as the pulse readings are by palpation or by auscultation

The majority of authors place hypotension at 110 mm and below Very little is said about the diastolic pressure Out of our second series with 350 cases, 118 had a systolic reading of 110 mm, or more than 33 per cent In this study, 110 mm and below, systolic pressure, is assumed to constitute hypotension All readings were by the stethoscope and auscultation, were taken three times at a single examination, the patients were lying on their backs, and a mercury instrument was used As a rule, the patients were ambulatory office patients in private practice, except as otherwise indicated in Table 10

CLASSIFICATION OF HYPOTENSION

One obstacle to a better understanding of low blood pressure has been the absence of any general classification other than to state that certain individuals in apparent health had low pressure, and that certain diseases were characterized by the condition The internist gives Addison's disease and tuberculosis as examples of disease with hypotension, and the surgeon accents shock With our present knowledge, a classification is based only on the conditions in which hypotension occurs, and cannot be a causal classification

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* Read before the Section on Practice of Medicine at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

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The association of hypotension with a disease does not mean that the associated disease is the cause of the hypotension It may be or it may not be Association is not necessarily cause An individual with hypotension, whether in health or with any medical or surgical condition may be placed in a general class, according to the classification given below With this as a starting point further exact studies on the causes of low tension become possible

TABLE 1—GENERAL PRESSURE AVERAGES AND TOTALS

	Number Cases	Heart Normal	Heart Diseased	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
Hyperpressure	131	57	74	176	103	73	85
Normal pressure	164	123	39	130	79	51	83
Hypopressure	205	165	40	109	70	39	81
Totals	500	345	155				

of the infections, surgical conditions, and nutrition in general A heart suddenly thrown into auricular fibrillation may be the variable factor in one case The pump has gone wrong The vessels may be the variable factor in a faint The bed has gone wrong In such a case the nervous system is the outside influence on the vessel An advanced anemia with cachexia or a severe hemorrhage may be the variable factor in another case The stream has gone wrong But probably more perplexing from the point of view of pure physiology are those healthy persons, or apparently healthy persons with low tension Where does the cause lie in these?

Five series of cases are presented for study and analysis Series 1 includes 205 cases of hypotension collected in 1917

As indicated by Table 1 of the 500 cases 131, or 26 per cent were hypertension cases, 164, or 33 per cent normal and 205, or 41 per cent, hypotension cases After all that has been done on hypertension, it is

TABLE 2—GENERAL PRESSURE AVERAGES BY SEX AGE AND HEART CONDITION

	Cases	Sex		Age		Heart Normal		Heart Diseased		Systolic Pressure		Diastolic Pressure		Pulse Pressure		Pulse	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Hyperpressure	131	70	61	50	40	26	31	44		180	172	105	101	65	70	84	85
Normal pressure	164	82	82	41	40	68	67	24	15	131	129	81	80	50	49	80	83
Hypopressure	205	105	100	45	50	82	83	21	19	108	110	70	69	38	40	78	83
Totals	500	257	243	136	130	176	181	89	74	144	143	83	80	51	53	80	84

TABLE 3—DISEASES BY DECADES AND CASES

Diagnosis	Age Males								Age Females								Total Men and Women
	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total	
Digestive system	1	5	4					10		5	6	1	1			13	23
Circulatory system	1	2	4	3	1	5	1	17	1	1	3	3	4	3		15	32
Respiratory system	2	1	2	1				6	2	3						5	11
Infectious diseases	4	2	2	4				12	2	1	4	1				13	25
Tuberculosis	3	5	3	2				13	2	1						4	16
Neurosis	3	1	2					6	2	2	3	1	2			20	26
Somasthenia	1	6	4	2				13		4	2					11	24
Anemia	1	1		2				4		2						2	6
Cachexia					2			2			1	1				2	4
Intoxications	1	3	3					7		1						1	8
Pellagra			2		1			3		2	4	1				13	16
Nephritis		1						1									1
Pelvic diseases										1	2	1				4	4
Total	17	32	30	14	4	5	1	103			25	9		3		102	205

1 Hypotension associated with comparative health

2 Hypotension associated with complaints of weakness inertia and easy exhaustion Somasthenia Somasthenic states Somasthenics

3 Hypotension associated with disease as cardiac disease tuberculosis anemia fevers and infections

4 Hypotension in surgery as in trauma hemorrhage anesthesia or shock

5 Hypotension in experiment, as with drugs after suprarenalectomy, and experimental surgical states

With the foregoing simple divisions in mind, hypotension becomes a problem of physiology primarily and of pathology secondarily It is a problem of the circulation The circulation is a closed system consisting of the heart, the vessels—artery capillary and vein—and the blood The pump the bed and the stream are the three factors They are variables in the constant that we call the circulation The cause of hypotension lies somewhere among these three factors It may involve one, two or all three of them Two of them, the heart and the vessel are under the varying influences of the nervous system, the endocrines and the metabolism, and all three are under the influence

somewhat surprising to find a larger percentage of the hypotension cases One notes that the higher the pressure the larger the percentage of diseased hearts 56 per cent in the hypertension as against 20 per cent in the hypotension cases Further there were more diseased hearts in the normal pressures than in the low pressures 24 per cent as against 20 per cent

Between the systolic hypertension and hypotension, there is a difference of 67 mm , between the diastolic pressures a difference of 33 mm , and between the pulse pressures a difference of 34 mm The swing upward the plus amplitude above normal, is greater than the swing downward below normal, the minus amplitude In the hypotension cases there is a less proportionate fall in the diastolic pressures than in the systolic and pulse pressures The circulatory mechanism tends to conserve the diastolic pressure, in hypertension it does not usually rise proportionately to the systolic pressure and in hypotension cases it tends to cling closer to the normal

The variations in the pulse rate were slight The hypertension cases show 85 against 81 in hypotension

Perhaps a factor here is, as has been already noted, the higher the pressure the worse the heart in the series, the lower the pressure, the more normal the heart and the lower the pulse Lower pressures tend slightly to lower pulse rates

TABLE 4—PRESSURE BY DISEASES

Diagnosis	No	Age	Sex M	Sex F	Heart Normal	Heart Diseased	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
Digestive system	21	42	10	11	21		110	69	41	81
Circulatory system	32	53	17	15	4	28	115	67	48	80
Respiratory system	11	41	6	5	9	2	104	70	34	80
Infectious diseases	35	37	22	13	31	4	110	70	40	80
Tuberculosis	11	36	12	4	16		106	68	37	88
Neurosis	26	36	6	20	25	1	107	69	39	80
Somasthenia	24	37	13	11	22	2	107	70	37	79
Anemia	7	35	4	3	6	1	102	68	34	69
Cachexia	4	50	2	2	4		113	63	50	86
Intoxications	8	37	7	1	7	1	106	72	34	79
Pellagra	16	39	3	13	15	1	10	66	39	85
Nephritis	1	80	1		1		111	80	35	93
Pelvic disease	4	44		4	4		111	77	34	76

Table 2 shows hypotension rather equally distributed between the sexes, 103 males and 102 females The average age for hypertension is about 9 years above that for hypotension The hypertension cases show an average higher pressure in women of 7 mm whereas, in the hypotension cases the two sexes show practically the same pressures The diastolic pressures are lower in women The pulse pressures vary only 1 mm The pulse rate with hypotension in women is 5 higher than in men

Table 3 is an analysis of the 205 hypotension cases by diseases, decades and sex There is little noticeable difference in the sexes, except that the neuroses and pellagra are more prevalent in women, and tuberculosis intoxications and infections in men Disease rather than hypotension is the determining factor The second, third and fourth decades are, as a rule, the decades of hypotension, though the relative hypotension in the decrescent sclerosis of the aged is a notable exception Under somasthenia, to be discussed later, is a group of thirteen men and eleven women, with no mental or nervous symptoms, that I have called somasthenics

TABLE 5—ABSOLUTE AND RELATIVE HYPOPRESSURE

Diagnosis	No	Age	Sex M	Sex F	Heart Normal	Heart Diseased	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Pulse
Absolute hypopressure	89	36	42	47	75	14	100	69	31	81
Relative hypopressure	116	45	61	55	90	26	116	72	44	80

Table 4 gives hypotension by disease, group, number, average, sex, and relation to the condition of the heart The lowest average is in the anemias, and the highest in the circulatory diseases, advanced age in the last group is a probable factor, and the term "relative hypotension" is used for cases below the normal for the age of the individual The somasthenics average only 107 mm The average age in tuberculosis is 36, and the pressure only 105 mm With the exception of four groups, the pulse pressures average in each group from 34 to 39 mm The pulse is notably uniform

Table 5 refers to comparison of absolute hypotension, i e, cases with a systolic pressure of 110 mm or below and cases of what in this first series of 205 cases is called relative hypotension, to be discussed later Two facts are evident from this table (*a*) The lower the pressure, the less frequent are pathologic conditions of the heart (*b*) The rate of the pulse is not a determining factor in hypotension with a difference of 16 mm in the systolic pressures In the two cases, the pulse rate shows a variation of only 1

Table 6 gives the complaints in order of frequency These are the personal complaints of the patients and the reasons that caused them to seek medical aid Of the 205 patients, sixty-two, or 30 per cent complained of exhaustion, thirty-one, or 15 per cent, of nervousness, twenty-eight, or 14 per cent, of headache, twenty-one, or 10 per cent of indigestion, sixteen, or 8 per cent, of constipation, the same number of abdominal pain, fourteen, or 7 per cent, of pain or numbness in the extremities, and twelve, or 6 per cent, of backache or phobias The chief symptoms in order are exhaustion, nervousness and headache I did not find as large a percentage of vertigos as did Goodman[14] —only eight cases in the series

Table 7 represents 3,389 persons with hypotension accepted for insurance by the Northwestern Insurance

TABLE 6—COMPLAINTS IN ORDER OF FREQUENCY

Exhaustion	62	Vertigo	8
Nervousness	31	Nausea	7
Headache	28	Colds	7
Pain in chest	21	Palpitation	6
Indigestion	20	Diarrhea	6
Constipation	16	Insomnia	5
Abdominal pain	16	Anorexia	5
Pain numbne of extremities	14	Rheumatism	4
Backache	12	Gas	4
Phobias	12	Chill	4
Dyspnea	10	Asthma	3
Fever	10	Edema	3
Miscellaneou	11	Facial paralysis	2
Loss of flesh	9	Itching	2
Eruption	9	Hemorrhage	2
Cough	9		

Company to Oct 1, 1920 The pressure in these cases ranged from 90 to 100 mm by palpation This would average from 100 to 110 mm by auscultation This includes a period of eight years from 1913 to 1920, inclusive There were only twenty-six deaths, and of these eight were casualties and ten were due to influenzal pneumonia, with only eight due to other diseases The medical director[20] states that

> The company has declined comparatively few cases wholly on account of low arterial tension In those cases declined with a low blood pressure there were other impairments which led to the rejection of the applicant We have not found in any of our death claims of insured members, where, for instance, the death was due to tuberculosis within two years of the issuance of the policy of insurance, that the

TABLE 7—ACCEPTED LIFE INSURANCE CANDIDATES WITH PALPATORY SYSTOLIC BLOOD PRESSURE OF 100 MM AND UNDER

Years	Ages at Entry 16 to 34 Number	16 to 34 Deaths	35 to 60 Number	35 to 60 Deaths	All Ages at Entry Number	All Ages at Entry Death
1912	5	0	4	0	9	0
1913	170	2	56	1	226	3
1914	150	2	45	1	195	3
1915	133	2	41	0	174	2
1916	292	3	81	1	373	4
1917	319	6	104	2	423	8
1918	208	1	140	1	348	2
1919	610	2	282	2	892	4
1920	221	0	298	0	749	0
Total	2 408	18	981	8	3 389	6

20 Fisher J W Personal communication to the author

blood pressure at the time of the approval of the application varied perceptibly from the averages for the age

Table 8 represents an analysis by age, pressure and hemoglobin of 350 cases of hypotension occurring in 1,950 cases in private practice, or approximately 18 per cent The women outnumber the men by thirty

TABLE 8—ANALYSIS BY AGE BLOOD PRESSURE AND HEMOGLOBIN OF THREE HUNDRED AND FIFTY CASES OF HYPOTENSION

	Average Age	Blood Pressure			Hemoglobin by Sex
		Systolic	Diastolic	Pulse	
Men (160)	38	107	67	40	79
Women (190)	34	104	68	36	83

or approximately 19 per cent This would seem to indicate that hypotension is more common in women than in men, as the two sexes occur in nearly equal numbers in the series of these 1,950 patients, 974 were men and 976 were women It is significant that the blood pressure among the women is 2 mm higher, though their average age is four years less than the men Further, the hemoglobin is 4 degrees higher than the men, 83 compared to 79 We have felt that this discrepancy in the hemoglobin is probably due to the fact that men as a rule wait longer to consult a physician and allow their pathologic condition to advance further than women They are sicker when they come for diagnosis than women Further, in the Southern states, an average of 83 per cent hemoglobin by the Dare hemoglobinometer is certainly a fair average for women, much less diseased women

TABLE 9—DISEASES IN THREE HUNDRED AND FIFTY CASES OF HYPOTENSION (MEN 160 WOMEN 190) CLASSIFIED BY SYSTEMS

Digestive system	190	Psychoneuroses	58
Vascular system	134	Psychoses	3
Arteriosclerosis	4	Diseases of metabolism	12
Secondary anemia	56	Tuberculosis	20
Angina pectoris	1	Chronic tonsillitis	102
Mitral disease	15	Pyorrhea	43
Hypertrophy of heart	10	Periapical infection	34
Myocardial insufficiency	15	Miscellaneous infection	37
Miscellaneous	98	Intoxications	17
Pelvic diseases	55	Pellagra	22
Urinary diseases	7	Somasthenia	3
Respiratory disease	35	Endocrine system	6
Diseases of nervous system	19	Miscellaneous	24

Table 9 is an analysis of the diagnosis of these 350 cases of hypotension arranged by systems of organs There is some interesting evidence in this analysis One patient may have several diseases present Each patient, as a rule, has more than one disease or one condition present There were 1,002 different diseases in the 350 patients, or an average of nearly three per patient The diseases of the digestive system lead with 190, next, the vascular system with 134 It is interesting to note that there are fifty-six cases of secondary anemia This and tonsillitis are very frequent chronic diseases in the Southern states [21] An anemia not primary, which by the Dare hemoglobinometer is 70 or below, is classified in this series as secondary anemia There are only four cases of arteriosclerosis in 350 cases of hypotension, and all the cases of cardiac hypertrophy and myocardial insufficiency were associated with mitral disease Unless some other disease is present, we have uniformly found mitral stenosis to be associated with hypotension Pelvic diseases number fifty-five, of which laceration of the perineum is more frequent with its accompanying rectocele and cystocele, next, laceration of the cervix with accompanying cervicitis, and lastly, fibroid tumors are the three most frequent conditions in this group Most interesting of all probably is the large number of cases of chronic tonsillitis, 102, pyorrhea, 43, and periapical infection, 34 It is our impression that chronic focal infections tend to secondary anemia and hypotension Of course, the exceptions to this impression are most numerous There are twenty-five cases of somasthenia or one case of every fourteen of hypotension

Table 10 includes 101 negroes, of whom forty-seven were men and fifty-four women of 20 years and older Women outnumber men by seven, and their average age is 7 years less The systolic pressure in men is only 1 mm more than in women The diastolic pressure is the same in the two sexes, and the pulse pressure in women 1 mm less It seems that the two sexes when sick give the same hypotension averages though the men average 7 years older These negroes were sick in the general medical wards, and included chiefly infectious diseases, such as typhoid and pneumonia heart disease diabetes, diarrheas, malignancies, syphilis and arthritis These 101 cases of hypotension occurred in 289 adult negroes, of whom 167 were men and 122 were women Of the total, 35 per cent had hypotension I have no figures showing the blood pressure averages in normal adult negroes, but it is my impression that blood pressure in normal negroes is somewhat lower than it is in normal white persons in the Southern states, though we have no actual figures to compare or to prove this statement It is simply a clinical impression

TABLE 10—FINDINGS IN TWO HUNDRED AND EIGHTY ONE ADULT NEGROES

Blood Pressure	Male	Age	Systolic	Diastolic	Pulse	Female	Age	Systolic	Diastolic	Pulse	Total No
Low	4	39	103	67	35	54	25	102	68	34	101
Normal	39	39	127	79	48	34	33	124	84	40	123
High	4	42	191	124	67	2	48	182	116	66	5

Table 11 includes twenty-nine white adults, of whom sixteen were men and thirteen women The average age of the men is fifty-eight and of the women fifty-three The average systolic pressures are the same There is a variation of 8 less in the diastolic pressure in women and 8 more in the pulse pressure in women The hemoglobin in both sexes is above 70 and would not be considered low in the South for this average age From a study of this table and all the cases that compose it, we are impressed with the fact that the hemoglobin is not a determining factor in hypotension To express it differently, a person may have a hemoglobin of 90 and a hypertension lower than

TABLE 11—RELATIVE HYPOTENSION BLOOD PRESSURE 111 TO 114 INCLUSIVE IN PERSONS AGED 45 YEARS AND OVER

	Number	Age	Systolic Pressure	Diastolic Pressure	Pulse Pressure	Hemoglobin
Male	16	58	112	79	33	73 Highest 90 Lowest 50
Female	13	53	112	71	41	71 Highest 85 Lowest 50

21 Medical Department of U S Army in the World's War 15 Statistics Pt 1 Army Anthropology p 326

another person of approximately the same age with a hemoglobin of 50

RELATIVE HYPOTENSION

The mooted clinical phrase "relative hypotension" seems to have been used with three different meanings

(*a*) The phrase seems to have been applied to a loosely used clinical rule that the average blood pressure for a person of 20 years of age is 120, and that normally the pressure should increase 1 mm of mercury for every two years of age over 20 If, for example, a person under this rule is 60 years of age, he should have a blood pressure of 140 mm If, now, his pressure is 125, it is 15 mm below the normal for the age of 60, and under this use of the term he is said to have a relative hypotension

(*b*) A second clinical use of this phrase has been made in reference to hypertension cases which, as a result of treatment or advancing disease, show a decided drop from their former hypertension level As a result of this drop they are said to be in a state of "relative hypotension," even though the blood pressure may be above normal For example, a person with chronic nephritis and a blood pressure of 220 mm may, as a result of cardiac dilatation and myocardial decompensation, develop a rather rapid fall in blood pressure to 150 mm Under this use of the term he has a "relative hypotension"

(*c*) It is clearly evident that either of these two applications of relative hypotension is rather unnecessary The first is an arbitrary application of an arbitrary rule that sharply relates blood pressure in millimeters of mercury to age in years This does not permit accurate conclusions The second use is unnecessary because it simply expresses a fall in blood pressure from hypertension to less hypertension or to normal

There is, however, a class of cases that we have come to feel justify the application of the term "relative hypotension" Out of our last series of 1,950 private cases there are twenty-nine cases listed in Table 11 which are far below the normal for these individuals The clinical impression prevails that a person of 45 years or older ought to have a systolic pressure of 120 mm If his pressure is between 110 mm, or the beginning of hypotension, and 120 mm, the average of normal tension, the case belongs in the relatively infrequent class to which with reason we may apply the term 'relative hypotension" We would therefore restrict it to persons of 45 years and older whose pressure ranges from 111 to 119 mm, both inclusive

SOMASTHENIA

In the first series of 205 cases are included twenty-four cases and, in our last series of 350 cases, twenty-five cases, or a total of forty-nine patients whose condition seems to partake of chronic exhaustion or of inability to maintain a normal active life without easy exhaustion, and the chief demonstrable condition seems to be hypotension Goodman [14] called attention to what he termed "cases of low blood pressure occurring in the absence of any demonstrable organic lesion These have been patients, for the greater part, on the ascent of the crest of the curve of life" He gives five illustrative cases, with variable symptoms, foremost among them being vertigo, and mental and physical fatigue They were improved by exercise, elimination and large doses of nux vomica In different words, Lawrence [12] calls attention to the same syndrome He includes such symtoms as "apathy, sometimes amounting to actual physical weakness, poor appetite and sleep, and tendency to headache after ordinary exertion" In short, the patients are unable to perform what is an easy day's work for the normal individual without experiencing symptoms of fatigue The condition is usually diagnosed as neurasthenia, debility or, in the absence of an examination of the blood, anemia

The group may be thus characterized

1 Age between 20 and 40 years, rarely after 40
2 Women predominate
3 Complaints, in order of frequency, are exhaustion, nervousness, headache, pains in chest, abdomen or extremities, indigestion, constipation, backache, dyspnea, insomnia and palpitation

The three chief complaints are exhaustion, lack of endurance and headache Low blood pressure is present The patients are not neurasthenics, and, apart from the diagnosis of visceroptosis or mild focal infections or hypochlorhydria or secondary anemia, no actual pathologic condition can be demonstrated These cases cannot be classified under the psychoneuroses The term somasthenia is applied to the condition, and the term somasthenic to the patient

CONCLUSIONS

A consideration of the blood pressure records of 440 cases of absolute hypotension and 145 cases of relative hypotension suggests that

1 Hypotension seems generally to be equally distributed between the sexes

2 Hypotension patients have proportionately more normal hearts than have normal persons or hypertension patients As the pressure rises the heart is more likely to be diseased

3 The pulse rate is not a determining factor in hypotension It tends to rise only very slightly with rising pressure

4 The rate of the pulse is more dependent on the sex than on the blood pressure, as indicated by Table 2

5 Hypotension may accompany different diseases It is difficult to prove the influence of the disease in the causation of the hypotension because, as a rule, the pressure before disease is unknown

6 The lowest pressures occur in secondary anemia, pellagra, somasthenia, neuroses, tuberculosis and the acute infections of the respiratory tract

7 Relative hypotension is a term that should probably be restricted to persons of 45 years and older whose pressure ranges between 111 and 119, both inclusive

8 The classification of hypotension is important because it separates hypotension in health from hypotension in disease and makes clearer the intricate problems of low blood pressure

9 Hypotension is not a bar to insurance in the old line companies, although in one series of 3,389 accepted candidates, the death rate was two thirds greater than the expectancy tables would indicate

10 Women seem to develop hypotension at an earlier age than men, as indicated by two series of cases

11 The percentage of the hemoglobin is not a determining factor in hypotension

12 In diseases of the circulation, secondary anemia is the most common accompaniment of hypotension Arteriosclerosis and myocardial diseases are relatively rare

13 Focal infections are common accompaniments of hypotension

14 In sick adult negroes there are more cases of absolute hypotension than of hypertension

15 Hypotension seems to tend to accompany acute diseases characterized by fever and chronic diseases characterized by diarrheas, as amebic dysentery, sprue and pellagra

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ABSTRACT OF DISCUSSION

DR GEORGE DOCK, St Louis It is interesting to see that in most of Dr Roberts' cases with hypotension the diastolic pressure does not seem to be very low I have noticed that in my own cases A patient may have a low pressure systolically, but a diastolic pressure of 80 or 85 This must play an important part in the symptoms of some cases, and a more careful study of the diastolic and systolic pressures might show some interesting features Most patients have appeared because their pressure was high and they have an exaggerated fear of high pressure They have an idea that there are certain norms, and then if a man of 50 has a pressure of 150 he gets alarmed over it I venture to say that the knowledge of this paper will spread People will learn that there are low pressures, they will have their pressures taken, find they are low, and we shall have a better opportunity to study cases than we have had heretofore with only accidental material Some of these cases are the result of incidental disease, such as pneumonia Others seem to be associated with defective conditions muscular and otherwise which are extremely important and sometimes extremely annoying to the patient

DR JOHN PHILLIPS, Cleveland Dr Roberts' paper is particularly timely because of the tendency until very recently to pay little if any, attention to hypotension probably because of the especial menace of hypertension—the development of arteriosclerosis It is especially important that we should not diagnose the presence of either hypotension or hypertension on the evidence of a single estimation of the blood pressure although there is more chance of error in the case of hypertension, since the blood pressure tends to rise under excitement Sometimes a blood pressure measurement on a patient's first visit to the physician may be from 50 to 60 mm higher than on the second visit These cases fall into several groups clinically One group as Dr Roberts said, comprises persons in apparent health Another group consists of persons who are easily exhausted these for the most part being women who lead an active social life Many of them have visceroptosis, and on inquiring into their childhood history, one finds that they were inclined to faint in school and showed orthostatic albuminuria In another group the hypotension follows an infection influenza in particular These cases show a persistently low systolic blood pressure Rolleston has asserted that the hypotension in these cases is due to some disturbance of the suprarenals by the toxin of influenza Another group includes the myocardial cases in which, as Dr Dock has said, the systolic pressure may be low but the diastolic pressure will be elevated so that the pulse pressure will be only 20 Such a condition is pretty good evidence that there is a weakened myocardium Still another group comprises the anemias with the exception of certain types of anemia which are associated with marked lowering of the kidney function with high blood urea and a low phenolsulphonephthalein output In these cases hypertension rather than hypotension is present In pernicious anemia the blood pressure is low, as a rule

DR. JOHN G MCLAURIN, Dallas, Texas Just what is to be considered hypotension? It has never been well defined In fact, it varies greatly so that what is considered hypotension in one person might not be considered such in another person of the same age It is probable that a systolic pressure below 110 in a person of 35 should be considered as hypotension To state just what constitutes a diastolic hypotension is still more difficult High blood pressure has been diligently studied for a long time, but low blood pressure, which is almost as important a symptom, has been sadly neglected Hypotension is dependent on some pathologic condition, and it is important that this should be looked for, a careful search will usually reveal the true condition responsible for it Sometimes the etiologic factor is quite evident It is usually present in acute infection such as typhoid fever pneumonia and influenza And, I think, it is fortunate that the blood pressure has been low in these acute infections The hemorrhage in typhoid fever is probably to some extent controlled by hypotension Then it is seen in certain chronic infections such as tuberculosis, in myocardial degeneration from lack of muscle tone, in a decompensating heart, and in anemia of the heart muscle Sometimes it occurs at the height of an attack of angina pectoris Internal glandular disturbances, such as diseases that diminish the secretion of the suprarenals are associated with hypotension It may occur in hypothyroidism and hypopituitarism, in the menopause, probably being a disturbance in the endocrine system Focal infections may also play their part, whether it is the effect of a liberated toxin on the musculature of the arterioles or a toxin action on the nerve control of the arteriole, is not definitely known I am of the opinion that it is usually an arteriole dilatation resulting from a partial paralysis of the vasoconstrictors due to a toxin I do not believe in the existence of essential hypotension It is a symptom, not a disease Hypotension is frequently the cause of considerable discomfort and probably in many cases more discomfort than would result from the same degree of hypotension

DR L F BISHOP, New York I can hardly agree with Dr Roberts that this subject has not been written about The literature is quite extensive and, strangely enough, the Italian literature has been particularly rich in it The consideration of the low blood pressure patient has been before us for a long time in different forms We can divide cases into three important groups first, the hypotension that is due to auto intoxication or infection of some kind In many instances this group constitutes the early stage of high blood pressure The persons who in early life suffer from low blood pressure of an infectious type will later on have high blood pressure The second group is the group which I classified twenty years ago as constitutional low arterial tension This is simply naming in another way a condition for which every clinician has a name I think that Dr McKenzie called it the X disease The army men included it in neurocirculatory asthenia It is a constitutional condition These persons have a defective circulatory mechanism which manifests itself in low blood pressure These people are the so-called neurasthenics and we have to recognize them as a definite group They do better on forced outdoor exercise and a good hygienic regimen They live to a miserable old age and they all suffer from some circulatory defect Probably endocrinology will give us a clue to this problem Then there is the group of secondary low blood pressure cases The measurement is not low but it is low compared to what the patient has been carrying The patient may come into the hospital with a systolic blood pressure of 180 but still it may be a relatively low blood pressure as it is below the pressure of 200 which he has been carrying The main point is that we must not allow primary low blood pressure to cause anxiety to ourselves or to our patients My experience is that in all of these cases, when disease or accident demands a higher pressure nature will produce it The final point I want to make is that low blood pressure has very little to do with heart disease and is a matter of the nervous system and peripheral blood vessels

DR ALEXANDER LAMBERT New York No doubt many disease conditions produce low blood pressure and many healthy persons carry low blood pressure and show no symptoms They are vigorous people I remember a patient who had a systolic pressure of 69 Then it rose to 160 Then he had an attack of tobacco angina and his pressure dropped back to 89 Later it had risen to 120 Low blood pressure is consistent with good health and not necessarily a disease condition That is my one point

DR LOYD THOMPSON, Hot Springs, Ark I have noted a rather persistently low blood pressure in late syphilis, that is, syphilis after one year About 90 per cent of these cases show a blood pressure of below 90 or below 110 at the highest

DR ELLSWORTH SMITH, St Louis It has been said that hypotension is not associated with arteriosclerosis While it may not be associated with arteriosclerosis, of course, nearly as often as is hypertension, still there is a well defined group of cases of arteriosclerosis with hypotension, the case in which the sclerosis is developing as a primary degenerative process in the arterial walls not secondary to hypertension In the hypertension cases, the cause of the sclerosis is the strain on the vessel wall, but in these so-called involutionary forms of arteriosclerosis, well defined arteriosclerosis even to the pipe stem beaded vessels may be present with a very low blood pressure I want also to accentuate the fact brought out by Dr Dock, and that is the importance of the diastolic pressure in these cases I agree with him that this explains very largely those cases of persons who go through life comfortably with their circulation perfectly compensated although the systolic pressure is quite low

DR STEWART R ROBERTS, Atlanta I am disposed to agree with most of the speakers in what they have said The anesthetists find that with a falling diastolic pressure during anesthesia they can foretell the beginning of danger and the onset of shock for twenty minutes before serious symptoms arise The surgeons on the western front during the war gave a rather unfavorable prognosis in those cases in which there was a diastolic pressure of 60 when the patients came into the casualty stations Each of us in internal medicine sees ambulatory cases in which the diastolic pressure is 60 or below It is impossible within the time allowed to go into the various phases of this subject For instance, on the Gulf Coast more persons have hypotension than hypertension Dr Thayer referred to this phase of the subject many years ago We have one patient whose pressure is reduced 25 mm by a hot bath Newberger has written on the influence of heat in producing hypotension Such phases of the question will be discussed in the future

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AN ANALYSIS OF A SERIES OF CASE RECORDS RELATIVE TO CERTAIN PHASES OF BREAST FEEDING*

HENRY DIETRICH, M D
LOS ANGELES

This analytic study is based on a series of 1,000 records of almost consecutive cases seen in private practice Hospital and welfare records are purposely omitted because I wish to demonstrate what happens to the infant of the middle class of our population

These patients employed a physician to care for mother and child during and, frequently, also after the obstetric period Most mothers and nurslings are, and should be, cared for by the general practitioner If we approach the subject from this practical standpoint, the general practitioner, whom I shall speak of as the obstetrician, must be impressed with the fact that he is constantly responsible for two patients, the mother and the child Once imbued with this fact, he should aim to become as proficient in the care of the nursling, in all phases of its welfare, as he is in the care of the mother

The obstetrician must feel that the state of nutrition and general well-being of the young infant is, to a great extent, dependent on the vigilance he devotes to it, and to the time and care he dedicates to the establishment and maintenance of breast feeding Only then does he fulfil the obligation he assumed when he consented to care for the mother during parturition

Jacobi stated, many years ago, that 85 per cent of deaths under 1 year of age occur in the bottle-fed infant If this is still true, a further lessening of our infant mortality depends largely on feeding the infant at the breast during the greater part of the first year of life

TABLE 1—LENGTH OF TIME OF BREAST FEEDING IN 1 000 CASES

Weeks				Months								
0	1	2	3	1	2	3	4	5	6	7	8	9
	139											
48	41	24	26	67	74	90	62	41	71	52	103	299
89				370							402	

This can be accomplished only if we have the wholehearted cooperation of the obstetrician I shall allow you to judge for yourself, after I have presented my figures, whether breast feeding is given the time and attention on the part of the obstetrician that I ask for it

REVIEW OF CASES

The review of these cases will be discussed under five headings

1 *How Long Was the Infant Breast Fed?*—We are confronted with the startling fact, as shown in Table 1, that 370, or 37 per cent, of these infants were nursed at the breast three months or less Against this, we have 402, or 40 per cent, who were nursed eight months or more Going a little more into detail, ninety mothers stated that they nursed their offspring less than one week In other words, 9 per cent of these mothers were allowed to or at least did deprive their children of their natural food within eight days of birth Ablactation was allowed in 139 nurslings before they were 4 weeks old Surely this does not speak well for the many efforts put forth in past years to encourage breast feeding

During these early periods, the patients, we must assume, were still under the observation of the obstetrician Undoubtedly, a large number of these mothers, if they had had the proper medical and moral support on the part of the obstetrician, could have nursed their offspring Furthermore, this is the period during which the breast milk supply often is not established to its full extent, and the mother requires advice and often encouragement from her medical adviser to overcome temporary difficulties At this time, the obstetrician must practice both the science and the art of medicine, must give of his time and patience, and must be alert to counteract ill advice from outside sources

2 *Was an Attempt Made to Estimate Quantity of Milk and, If Deficient, Were Complemental Feedings Resorted To?*—In only eighty-four cases of this series were complemental feedings advised and given Practically all others stated that the child was weaned without an effort being made to estimate the quantity of breast milk Of the eighty-four infants, 75 per cent were put on complemental feedings by me This would tend to show that the practice of determining the amount of breast milk and the use of complementary

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*Read before the Section on Diseases of Children at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

feedings is rarely resorted to by the obstetrician Yet it is a simple procedure, being far more practical and accurate than the milk analysis which is frequently given as the cause for weaning I was interested also in the length of time that a child was kept at the breast after complemental feedings were established A summary of eighty-four cases is presented in Table 2

The belief that insufficient gain, restlessness, curds in the stool, etc, are due to poor quality of milk is still far too common Insufficient milk is more often at fault than the quality of the milk Complemental feeding can be carried on for months, and, during this time, the infant, in many instances, receives 30 to 75 per cent of its food in the form of breast milk This condition obviously is preferable to bottle feeding The argument is advanced that accurate scales are expensive and that weighing a child before and after feeding is irksome to the mother Scales can be rented in all large cities and are less expensive than the price paid for milk over a period of months Again, it is not at all necessary to weigh the child before and after each feeding, checking up the amounts once or twice a week and striking an average is sufficient

3 *If Supplemental Feedings Were Given, How Long Was the Child at the Breast After Feedings Were Started?*—Here we included those cases in

TABLE 2—LENGTH OF TIME BEFORE WEANING AFTER COMPLEMENTAL FOOD WAS GIVEN (EIGHTY FOUR CASES)

Weeks			Months							
1	2	3	1	2	3	4	5	6	7	8
0	1	0	4	13	22	14	22	4	3	1
5										

which two or more bottles were substituted for breast feedings In eighty-three cases, we have definite information that this was done with the idea of keeping the baby at the breast and not with the idea of weaning it Many times we were told that the physician explained to the mother that by following this procedure and nursing the child two or three times in twenty-four hours, or often only at night and in the morning, the breasts would fill up This is a striking example of the fact that these men did not comprehend that only regular, thorough emptying of the breasts will maintain a milk supply and that any other course must quickly lead to bottle feeding The length of time elapsing between the institution of supplemental feedings and complete weaning bears this out and the figures as presented in Table 3 are in marked contrast to the figures on complemental feedings

I am not unmindful of the fact that a mother who cares for her children and her home has many duties Therefore, in cases in which the milk supply is well established, I believe that one bottle feeding may be given after the third or fourth month We must use our judgment, as some mothers will take advantage of this privilege and gradually wean the child, while other mothers are actually benefited by this break in the daily routine We do not sanction the use of the bottle in early infancy When two or more bottles are given, weaning is not far off

4 *What Food Was First Given the Child on Weaning?*—In answer to this question, we were agreeably surprised to note the result of the propaganda for pure cow's milk as the best food for the young infant In 720 cases, or 72 per cent, the infant was given a modified cow's milk without the addition of a proprietary food The remaining 270 infants were fed as follows Eagle brand, 105, goat's milk, 36, Nestles, 6, peptogenic, 2, malt soup, 1, Sunbright, 1, Dennos 8, condensed milk, 9, milk and Eskay's, 27, milk and Mellin's, 42, malted milk, 29, Dryco, 9, Klim, 1, Allenbury's, 2, Mammala, 2 If we add the cases in which the infants were fed on goat's milk to the 720

TABLE 3—TIME BETWEEN INSTITUTION OF SUPPLEMENTAL FEEDING AND WEANING (EIGHTY THREE CASES)

Weeks			Months				
1	2	3	1	2	3	4	5
10	16	5	31	12	6	2	1
62							

in which they were fed on modified cow's milk, we are gratified to find that 756 children were started on milk without proprietary foods Having been able to educate the laity and profession to the use of modified cow's milk, we should also be able to attain similar results from an intensive campaign in regard to the establishment and maintenance of breast milk

5 *Reasons for Weaning*—The reason for weaning was ascertained in 337 of the 371 cases in which the infants were weaned during the first three months In almost every instance, the physician was consulted and knew that the child was to be weaned Fifty different reasons were considered valid excuses for depriving these children of breast milk Of these fifty reasons, we cannot possibly consider more than nine as justifying such a serious step These reasons are death of mother, pregnancy, adoption of child, some cases of abscess of breast, tuberculosis, acute illness of mother,

TABLE 4—REASONS GIVEN FOR WEANING

1	Death of mother	6	29	Cracked nipples	6
2	Cesarean section	3	30	Milk dried up	18
3	Insufficient milk	69	31	Vomiting	6
4	Inverted nipples	5	32	Menopause	1
5	Insufficient gain	26	33	Menstruation	7
6	Poor milk blue, watery	35	34	Operation on mother	4
7	Bad stools—green stools	14	35	Mastitis	2
8	Weakness of mother	6	36	Eczema on child	2
9	Bad stools	12	37	Physician did not believe in breast feeding	2
10	Refusal of mother to nurse	4	38	Cleft palate—harelip	2
11	Abscess of breast	9	39	Mother too old to nurse	1
12	Toxemia in mother	4	40	Facial paralysis	1
13	Adoption	2	41	Mother became too stout nourishment all went to mother	1
14	Tuberculosis of mother	6	42	Prematurity — inability to nurse	2
15	Mother had to work	3	43	Child preferred bottle	2
16	Mother had not nursed previous children	4	44	Colic	2
17	Salty milk	1	45	Pertussis	1
18	Social duties	1	46	Hydrocephalus	1
19	Nervousness of mother	10	47	Pylorospasm	1
20	Bad milk—poison milk	7	48	Spastic paralysis	1
21	Acute illness of mother	26	49	Milk ran out and kept mother wet	1
22	Child not satisfied	8	50	Not convenient to have child on breast	1
23	Convulsion of child	1			
24	Acid milk	2			
25	Child would not nurse	5			
26	Pregnancy	4			
27	Milk too rich	2			
28	Baby not strong enough to nurse breast	3			

severe operation on mother, mother had to work, and toxemia of mother Only sixty-four cases, however, came under these headings, and of these thirty-five are doubtful, since they were due to abscess of breast and acute illness of mother Among the acute illnesses of the mother, we find the following herpes

zoster, asthma, influenza, malaria, eczema, fever, pyelitis, pyemia, quinin poisoning, valvular disease, septicemia, infected finger, tonsillitis, insanity and diabetes Some of these may or may not demand permanent weaning of the child

Of the 337 infants enumerated, a total of ninety-five were weaned because of insufficient milk or insufficient gain These two reasons were recorded in more than twenty infants before they were 1 week old The great majority of these ninety-five infants, with proper care and, if necessary, with complementary feeding, could have been entirely or at least partially breast fed Curds in the stool, convulsions, pertussis, menstruation, cleft palate, spastic paralysis, prematurity, acid and salty milk, mother had not nursed previous children, etc, are reasons so ludicrous that we hesitate mentioning them except that they demonstrate the lack of a proper conception of the fundamentals of breast feeding A mass of literature has gone out to the public, but we believe that to accomplish results we must reach not only the public but also the profession The subject should be discussed more frequently in our medical societies and in our journals Pediatric societies, we believe, can do considerable good by issuing pamphlets on the subject and distributing them to physicians throughout the country The Southwestern Pediatric Society issued such a brochure last year and mailed a copy to every physician in southern California Breast feeding is a vital subject at least once to every human being Not so with appendicitis, yet the surgeons did not hesitate to speak or write on that subject unceasingly for years, until they had educated the laity and the entire medical profession to the correct point of view Let us follow their example, endeavoring to make each and every physician as ardent an advocate of breast feeding as he is of the surgical cure of appendicitis, with the full realization that, in advocating and carrying on breast feeding, he is practicing preventive medicine in the supreme sense of the word

Brockman Building

ABSTRACT OF DISCUSSION

DR ISAAC A ABT, Chicago Dr Dietrich has shown that 36 per cent of women nursed their babies at the breast three months or less, while 40 per cent nursed their babies eight months or more, that at nine months, 9 per cent nursed their babies less than one week, and that in 14 per cent the babies were weaned before the age of one month Dr Dietrich makes the correct distinction between supplemental and complemental feeding There is a great deal of confusion about those two words Complemental feeding is the type in which the baby is given the bottle immediately after the nursing, while supplemental feeding is that type in which a bottle is substituted for nursing I am in full agreement with the expressed opinion about the stools of breast-fed babies A slight apparent abnormality in the stools of a breast-fed baby is not of equal significance to that in a bottle-fed baby After the breasts are functioning properly, it is justifiable to give a supplemental bottle after the baby is 3 months old If supplemental feedings are begun before the third month, the necessary stimulation to the breast is not supplied After the third or fourth month, the baby frequently needs additional food I believe with Dr Dietrich that when two or more bottles are given early in lactation, weaning is not far off In the literature one frequently notices the statement that tuberculosis is the one absolute indication for weaning I think, however, that the reasons expressed in the paper may be accepted The point we should make is that every baby should be nursed at the breast unless the mother is incapacitated by acute disease or by some mental disturbance or social condition which necessitates her leaving the baby

DR WILLIAM A MULHERIN, Augusta, Ga In the South and in the West there is more maternal feeding than in the East and in the North The reason for this is that Southern and Western physicians are convinced that mothers can nurse their babies I belong to the Ross Snyder-Sedgwick school In 1906, Ross Snyder called attention to the fact that there was too little breast-feeding and that we were drifting too far from nature Sedgwick gave the modus operandi There are five essentials which will succeed with maternal feeding (1) conviction on the part of the physician that mothers can nurse their babies, that breasts are intended not for ornament but to nurse babies, (2) conviction on the part of the mother that she can and will nurse her baby, (3) stimulation of both breasts by nursing the baby at regular intervals, (4) emptying the breasts by manual manipulation after each nursing, and (5) patience and perseverance on the part of physician and mother From actual practice, I feel convinced of two facts 1 Nearly every mother can nurse her baby at the breast, if properly encouraged 2 Nearly every mother's milk agrees with her baby I know of no single factor or several factors operating today in the interest of babies' welfare that will save more babies' lives than the general adoption of maternal feeding

DR T C MCCLEAVE, Oakland, Calif Physicians all know, from experience that the responsibility for the condition of affairs Dr Dietrich described lies primarily with the man who brings the baby into the world What Dr Dietrich described as relating to his practice is certainly true in our community I have in mind one obstetric institution in which babies invariably are fed malted milk as prescribed by the head nurse Babies are as a routine taken off the breast, and that institution does not stand alone in this practice The use of the terms complemental feeding and supplemental feeding has been confusing to a great many people The word supplemental" does not describe the use of a bottle instead of the breast The proper term is 'substitute feeding" Complemental feeding is a correct term Two years ago physicians believed that the more food we gave to the mother, the more milk she would give, but a physician in Detroit described careful observations on the feeding of mothers and declared that it was unnecessary to stuff a mother to enable her to breast-feed the baby The second point is the longer nursing interval Out in the West, babies are generally nursed on a four-hour schedule right after birth A few babies do better on a three-hour schedule for a while, but the four-hour schedule is immediately taken up It does better for the mother, as she can go out to social functions, and have a comfortable day with five feedings, she sleeps all night and the whole family is contented

DR M L TURNER, Des Moines, Iowa There are a number of reasons why the mother may not be able to nurse the baby First of all, we should teach the mother how to live before the baby is born so that when the baby comes she does not need to change her diet Neighbors should not be allowed to bring in delicacies and impair her appetite Let the mother eat wholesome meals before as well as after the baby is born, and she does not need to stuff herself in order to have plenty of milk for the baby Another important point in successful nursing is to have the baby put to the breast immediately after it is born There is a substance in the mother's breast which is essential for the child A dram of colostrum is worth a quart of water at this period And I endorse Dr Mulherin's suggestion for emptying the breasts I insist that the mother nurse both breasts every time she nurses the baby Every mother can nurse her baby I have been able to establish the milk in the breasts of twenty-five mothers during the last two years from two to eight weeks after they have weaned their babies, and in one case after three months One mother was 39 when her first baby was born The baby had been weaned for eight weeks and was put back on the breast She was able to nurse the baby for a year I think, as Dr McCleave says, that we are confused in the terms complemental and supplemental feeding I

agree to the term "substitute feeding" I do not agree with Dr Abt that after the fourth month we should give the baby a substitute feeding Any time the breasts are not stimulated regularly, they fail to secrete The mother can nurse the baby every four hours, and can then go out and have her afternoon tea and have enough milk to keep the baby nursing

DR L R DEBUYS, New Orleans This paper emphasizes the necessity of the proper care of the infant immediately after birth It would have been interesting if he had told us what advice had been given these mothers as to the care of their babies Were they delivered by obstetricians or otherwise, and who gave the advice which they followed? Pediatricians should fight for the proper care of the baby immediately after it is born, and this advice should be given by those adequately prepared to give it

DR ADA E SCHWEITZER, Indianapolis We have been engaged in the study of the feeding of 5 336 children aged from 8 weeks to 6 years We compared relative height and weight of Indiana children Fourteen in every hundred were below the standard weight for height An inquiry into the feeding of these children showed that 65 per cent of the children of the underweight class had not been breast-fed, only 11 per cent of the underweight class had been breast-fed exclusively in early life The prevalence of breast feeding in infancy is shown by the fact that about 72 per cent of the children studied had been breast-fed all the way from six weeks to six months This, we felt, was a fairly good showing as these studies were made outside the larger towns, largely in the rural districts The percentage of breast feeding in any community seemed to depend on the advice given by the physician to the mother concerning its advisability In addition to the reasons given by the author, early weaning among these Indiana mothers often was resorted to because the baby cried a great deal, or because he did not seem to be satisfied We found that among infants who were breast-fed exclusively and among the infants on a supplemental feeding, a high percentage were up to standard height and weight We also found that babies fed proprietary foods furnished the highest percentage of underweights Of the older children those on a varied diet were up to standard, but in the country districts, where the children were given a diet of meat and potatoes with not enough of leafy vegetables and not enough milk the percentage of underweights was higher Although we were unable to check up the condition of the children as often as was desirable, we felt that this was an interesting study We did show to the people of Indiana that the highest percentage of poorly nourished children occurred in the group who were not properly fed early in life

DR G A WARREN, Black Rock Ark Eleven years ago Dr Jacobi said that a most significant emblem of one of the artificial foods was the picture of an angel because if you feed babies this food, they would soon become angels He emphasized the value of giving cow's milk if the mother's milk was not sufficient We should all be impressed with the importance of breast feeding I think that a child should be nursed until it is 18 months of age There ought to be two periods for weaning a child A child ought not to be weaned during the hot months without some of the reasons given by the author I do not believe that nature intended that a child should be put on foods until it has at least sixteen teeth and that is usually in the second year

DR. EDGAR A HINES Seneca S C The keynote of the proposition, as I see it is how to reach the medical profession of America Under the inspiration of the vice chairman of this section, we are organizing state pediatric societies in the Southern states Ten of our states have been so organized One of the main objects of the organization is to give the profession just such information as has been brought out by the author and by those who have discussed his paper At the next meeting of the South Carolina Medical Association the chief place on the program will be given to the discussion of breast feeding and that may be done throughout these ten Southern states I believe that within two years the entire sixteen Southern states will be organized in that way

DR CLIFFORD G GRULEE, Chicago The paper gives a very good outlook on the reasons which we may expect for weaning children That is very important, and it shows very clearly that in the vast majority of cases the reasons for weaning children are entirely inadequate It calls attention to the fact that the new-born period is very important In my opinion the introduction of breast feeding in the new-born is the crux of the situation If one does not get these babies to nurse during the first few weeks of life, one does not get them to nurse at all It usually rests with the obstetrician whether the baby nurses or not A lot has been said about the mother nursing the child, and nothing was said about the child nursing the mother I have had charge of the babies in the maternity wards of a general hospital, and I find that the baby's tendency to sleep is the one factor that takes it away from the feeding If we keep them awake and at the breast and force them to nurse, they will do well If these babies nurse a few minutes they often go to sleep They have to be stimulated and kept awake and made to nurse

DR GEORGE E BAXTER, Chicago It is important to emphasize the most common conditions which we meet For example, it has been my habit to ask the question of every mother what reason she had for weaning the baby Our percentages run much higher than Dr Dietrich's for the following two or three reasons for weaning, which are found in his tables 'insufficient milk' 'trouble with the stools," "advice of physician or nurse' I would like to emphasize one point which Dr Abt stressed, and that is the condition of the stools We would have far more babies nursing at the breast if the physician, nurse and mother never looked at the stools A green color, a few curds, a little mucus in the breast-fed baby stool has been misinterpreted, and consequently innumerable infants have been deprived of their best and safest food All pediatricians know this, but very few of them stress the importance to obstetrician and general practitioner Another factor is the time of nursing Dr Grulee has mentioned the fact that these babies go to sleep on the breast We should be careful that the nurse and mother understand that nursing at the breast means sucking at the breast We must determine whether the baby is getting any milk Weighing before and after nursing is a good thing for a few times only It is irksome to the mother and baby to keep it up as a daily and regular habit at each nursing period and no baby will get the same amount from each breast at each nursing period By careful observation, the mother will soon learn whether the baby is actually sucking and swallowing or sleeping or nibbling using the breast nipple only as a pacifier I firmly believe that the usual time which is practiced in all hospitals of having the baby nurse for twenty minutes is fundamentally wrong, because no two infants will get the same amount of milk from the breasts in the same given length of time We should pay more attention to the way the baby sucks and swallows Teach the mother and nurse to observe whether the baby is actually sucking and swallowing The old and less elegant word 'suck' expresses far more accurately the action of the baby at the breast than 'nursing" Instead of having the baby suck ten minutes on one breast and ten minutes on the other, we should have the baby suck until he gets all he can or wants for these infants have an intuitive sense if you please of how much they need I am getting to the point at which I advise mothers to turn the clocks to the wall when they are suckling their babies

DR HENRY DIETRICH, Los Angeles I think that Dr McCleave's idea in regard to the use of the term "supplemental' feeding is an excellent one, and that by using the term substitute feeding we may prevent some mothers from starting the babies on the road to weaning We can learn a great deal from the dairyman If we spend some time with the dairyman we will get some important points that will help us in the better understanding of the establishment of breast milk In answer to Dr DeBuys' question some of these children were under the care of expert obstetricians, a great many were under the care of general practitioners One infant that was given no breast milk was the daughter of a patient who found it necessary to have an obstetrician

come from New York to Los Angeles to confine her and also to have her take the baby from the breast Both Dr DeBuys and Dr Grulee are correct in regard to the new-born period I agree that that is the time when these babies need the most attention There are many young infants who from the time they are born are left to the care of the nurse The mother is stuffed with whatever the nurse gives her, and if the mother does not have a plentiful supply by the fourth day, the baby is put on the bottle And this holds true in as large a city as Los Angeles, where in some instances the physician never saw the baby from the time it was born until the mother left the hospital

POLITICS AND THE HEALTH OFFICER*

MATTHIAS NICOLL, JR, M D
Deputy Commissioner of Health State of New York
NEW YORK

There can be no question that public health service as a career does not offer sufficient attraction to many of the best type of technically trained men, whether they are physicians, sanitary engineers or statisticians, to induce them to make it their life work Although, in recent years, such men are entering the service in greater numbers than formerly, the need for thoroughly competent officials by states, counties and cities is far greater than the supply, and, it may be added, greater than the demand

The reasons for this unpopularity of public health service are

1 Lack of knowledge on the part of many graduates of the professional schools as to the character of the work, the opportunities afforded for developing it and the qualifications, technical and personal, which are essential to success In order to furnish this information, it would seem desirable to introduce somewhere in the curriculum of medical and allied professional schools, including schools of nursing, a course of lectures, delivered by an experienced and successful health official which would serve to impart exact information as to the opportunities offered by public health service, and to bring out facts as to the past, present and probable future of the work, its advantages as well as its disadvantages compared with private practice It is very certain that the entrance into this field by persons who have little or no knowledge as to what is before them must, in many cases, inevitably lead to disappointment and unrealized hopes, and that many potentially able health officers are lost to the service because they have not been informed as to its opportunities and advantages

2 Inadequacy of compensation It may be stated, as a general rule, that salaried public service of an administrative and technical nature, in this country, if it be honestly and efficiently performed, is not adequately compensated Public health service is by no means the least conspicuous example It is hardly to be expected that communities, even the most populous and wealthy, will be willing and able to pay salaries to health officials which will compare with the income which many technically trained professional men command in private practice and in some industrial corporations But that the salaries paid should represent a reasonable return on the capital invested in money and the time devoted to preparation, and should afford a decent living, with something saved, to those who have no other source of income, is beyond dispute

The full-time health official, and even he who honestly devotes part time to the duties of his office, becomes, year by year, less able to earn a reasonable living in private practice Health service is, for many reasons, incompatible with private practice and is usually destructive of the desire to enter or return to it, so that it not infrequently happens that, after years of such service, the health official, having relinquished or been relieved of his office for one reason or another, finds himself without means of support, and a seeker for any work which will enable him to live The lawyer and business man who temporarily neglect their private work for public office have something to fall back on Indeed, it not infrequently happens that their professional and business returns are enhanced rather than diminished, for there is no incompatibility between private and public work of this character, such as exists between official and private medical work This is a matter which state, city and county officials do not realize, and will not realize until they are taught the value to the community of efficient health work, and that such work must be reasonably paid for or dispensed with While the pay of health officials has notably improved during the last few years, it is by no means generally adequate, and, until it becomes so, many of the best men cannot afford to enter the field of public health

3 Uncertainty as to tenure of office Quite as important if not more so than the foregoing as a deterrent to entrance on public health work is the uncertainty of tenure of office Many qualified men, especially those with some private means, would, notwithstanding the meager financial returns, enter into public health service, on account of their liking for it, were it not for the fact that they have little or no assurance that even if they perform their duties satisfactorily and obtain results, they may not be thrown out of office, for political or personal reasons, and with no opportunity to protest

The majority of adult Americans of intelligence have political opinions and more or less strong party affiliations, and it would be unfortunate for the country if such were not the case But there is a class of politicians which exists in all parts of the country which could be well dispensed with, namely, those who are willing to sacrifice the welfare of a community to an assumed political advantage, in order to satisfy a personal or political grudge or to bestow political favors Health officers, through no fault of their own, all too often fall victims to the activities of this shortsighted, mistaken policy, and the community is thereby deprived of valuable and faithful service

It will be conceded that the politics of a health official should be of no more concern to a community than the politics of the family physician to an individual There is no defense for partisan interference in the work of an official who is devoting his service to the health and lives of the people of a community, except ignorance of the value and importance of such service, and it is this ignorance, by which the health officer suffers, for which he is very often himself largely responsible, in that he has failed to impress on the people of the community, including those with political power, the value of services rendered In other words, he is regarded by the latter as any other office holder, and is subject to the same rules of the political game A

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St. Louis May 1922

health officer who has accomplished such results as to enlist the support and backing of the general public in his community is fairly secure in his position The politician who brings about the removal of such an officer, replacing him by an incompetent, is liable to receive from the people, at the first opportunity, his justly merited reward There is no greater asset in any administration than well-conducted health work, and no other work comes nearer to the heart of the people or so generally enlists public cooperation This fact is being recognized more and more clearly by governors, mayors, commissioners and minor administrative officials If it be granted that health officials should be free from political interference, it is equally true that they themselves should perform their duties without regard to political or personal influence and that they should on no account take part or use the prestige of their office in any partisan campaign Wherever their sympathy lies, in their official acts they should remain absolutely neutral The health officer who openly or privately works for the advancement of one political party or another is entitled to no sympathy if, as a result, he loses his office He has played a game, lost it, and should pay—on demand

Health officials should work in as close harmony as possible with the administration, and cooperate in making it a success They should remember that the technical knowledge pertaining to public health work and its importance to the community is not often possessed by coordinate lay officials and when differences of opinions arise as to policy relating to health administration, they should make every endeavor to render clear their position and reasons for acts, the value and desirability of which are being questioned, often through lack of understanding Tactlessness, arrogance and too great readiness to attribute evil motives to those with whom officially and unofficially they come into contact are just as certain indications of unfitness for public health service as subservience and eagerness to curry favor at the sacrifice of plain duty However technically qualified by education and experience, the health officer, if constantly at odds with the administration, will be able to accomplish little or nothing, and his services to the community will be of very little value If this lack of amicable relationship is due purely to political or personal motives on the part of members of the administration and to no fault of his own, his work having met the approval of the people of the community, the health officer may, in most cases, rely on public support, which is exceedingly difficult to overcome If, on the other hand, it is a question of incompatibility of temperament, or the health officer is suspected or known to be playing politics, it is better for him and the community that he should resign

What may be done to make more secure the tenure of office of efficient health officers? Civil service, while theoretically valuable for this purpose, has not, in effect, proved much of a deterrent against unjust removal from office The state department of health of New York through the public health council, and in cooperation with the state legislature and conference of mayors, has taken certain steps which should prove of value in remedying this evil, first, by an act of the public health council, July 6, 1915, in establishing qualifications for local health officers, except those of the first and second class cities Under this regulation, candidates for health officerships are obliged to qualify themselves by taking a public health course outlined and supervised by the state department of health in cooperation with one of the medical schools of the state, or, in lieu of such course, to furnish to the council evidence of education and training in public health which shall represent an equivalent of the work required by the course Although handicapped by the war and two great epidemics up to the present time about 600 health officers out of 969 have either taken this course or otherwise qualified, and about 150 are now registered in it This regulation has served to prevent the appointment of men who were not qualified to hold office, and to educate the appointing power in the various communities as to the necessity for choosing men with some training in public health, and not those, however respectable, who are simply medical practitioners and without knowledge of public health matters In the majority of cases, it has rendered it difficult for such appointing power to displace the health officer whose qualifications had been approved

In 1921, at the instance of the conference of mayors and the state department of health, a law was passed, permissive in character, by which second and third class cities may abolish boards of health, and empower the mayor or city commissioner to appoint the health officer, who, however, must be qualified under the regulations of the public health council It makes the health officer responsible for the conduct of his office solely to the mayor or other appointive power, and not to an intermediary lay official, such as a public safety commissioner The term of the health officer was fixed at four years, but he could be removed without specific charges The latter provision obviously constituted a weakness in the law This was remedied at the last session of the legislature, which made the health officer removable on charges only after a public hearing A number of cities have accepted this law, and more contemplate doing so Furthermore, the newer city charters include identical provisions These two measures, I believe, should be regarded as a step in the right direction, but only a step City and county health officers (certainly those who give full time to these positions) should have a life tenure of office, unless sooner removed for cause, and, until the salaries granted are more liberal than at present, some provision should be made for a pension after retirement

It is quite obvious that causes for discontinuing the services of a health officer should include inability to achieve results after a reasonable period of trial, for I think it will be readily granted that, however well qualified a man may be in theory, when it comes to actual experience he may prove to be far from a success and communities should not be powerless by law to rid themselves of a health officer of this kind

It is perhaps too much to expect that in the near future adequately paid, well qualified, whole-time health officers, with a secure tenure of office, will be the rule rather than the rare exception This state of affairs can be brought about by one means alone general education of the public regarding the meaning and importance of efficient health administration

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ABSTRACT OF DISCUSSION

DR A T MCCORMACK, Louisville, Ky There is not a statement in the paper with which I disagree and that makes it extremely difficult to say much except in repetition It has always seemed strange why after forty years the physicians of the United States have not realized the possibility of such an organization as will entitle them to such public confidence that the standards suggested in Dr Nicoll's paper

would be accepted by the public and the profession today It is impossible for the mayor to know a good health officer He may appoint a good health officer I do not mean he cannot do that because it has been done occasionally It does not necessarily happen that he is a good health officer because he is the family physician or political supporter of the mayor, and too frequently health officers are appointed for that reason If the appointments of health officers were made by law under the endorsement of the medical profession, which, after all, should be responsible for the public health of the state, with the provision that they must handle the financial affairs of the organization economically, the results would be better That provides sufficient continuity to make the proposition attractive even though the remuneration is small, not because the health officer should not receive a greater remuneration but because he has such an opportunity for good service that he feels compensated out of proportion to the amount of money he receives

DR VICTOR C VAUGHAN Washington, D C I agree with all that Dr Nicoll has said It has been my fortune to be in public health work for many years, and I think that, on the whole, Dr Nicoll is right in advising the health worker to steer as far as possible from active participation in politics In Michigan, where my health work has been done, I have generally been known as a Democrat, and at times have taken a rather prominent part in state conventions of this party During this time, or at least during the greater part of it, the state has been overwhelmingly Republican I do not believe that my political belief or my political affiliation has in any way interfered with my health work My most successful work along health lines has been carried out in legislatures in which my party had but few representatives Of course, a tactful man and a health official must be tactful will always be courteous, especially to his opponents I do not attach as much opprobrium to the word 'politician" as some persons do The politician is the man who persuades his fellow citizens to vote this way or that, and if he persuades them to do that which is for the benefit of the whole, I am quite sure that he is accomplishing a desirable work In my opinion, epidemiology is not studied with deserved thoroughness in this country at this time It seems to be a general opinion among medical men and nonmedical health workers that bacteriology and epidemiology are synonymous This is far from being true Epidemiology is the much broader term, the much older science and the one about which I believe less is known now than was the case a hundred years or more ago When pestilence was more frequent, the words 'loimology' and "loimography" were in general use, both by the medical profession and by the learned laity Loimology was defined in the old dictionaries as the sum of human knowledge concerning pestilence and the epidemiology of many diseases was quite extensively known long before the science of bacteriology came into existence

DR J A HAYNE, Columbia, S C In South Carolina we embody most of the recommendations that have been laid down in the papers read today When many of the states of the Union were wildernesses, the state of South Carolina made its medical profession the state board of health of South Carolina, and made it so by law To get the best out of the medical profession in other states it should be made the state board of health Then there will be an ideal board of health The state board of health of South Carolina has survived since 1879 This has been due to the intelligence of her health officers

DR MATTHIAS NICOLL, JR, Albany, N Y I trust that no one will conclude from what I have said that we in New York state are wholly lacking in political judgment I do insist, however, that conditions are different with us than in the state from which Dr Vaughan comes where one party is always in power while in New York state there is a change in administration every few years I would not give a penny for the health official who is not a politician in the sense of using political judgment in putting his own work across If he cannot do that he is lacking as an administrator Dr Vaughan, a Democrat, was a health officer in a Republican state, and no Democrat or Republican dared to remove him, but I contend that it is unnecessary and dangerous for a health official to mix in partisan politics He should confine his political activities to the conduct of his own office, in other words, attend strictly to his own business By so doing, and always provided his work meets the approval of the general public, he will usually be safe from political interference If, on the other hand, he uses his office for partisan purposes he will suffer the inevitable consequences sooner or later and have only himself to blame.

CONTRIBUTION OF STUDENT HEALTH SERVICES TO PUBLIC HEALTH*

J HOWARD BEARD, M D
URBANA, ILL.

A health service is neither an institution of philanthropy nor an organization for the promotion of paternalism It strives to cooperate, not to compete, with the medical profession It augments rather than decreases the practice of local physicians It has nothing to do with either compulsory health insurance or contract practice

It functions solely in the interest of sound economy by keeping the maximum number of students in the classroom and by insuring the investment in education by teaching elementary knowledge of the human machine, which each student must handle for the remainder of his life It endeavors to keep the normal fit, to restore the ill quickly to health

Health, as defined by it, is not merely the absence of disease, but the sustained striving for physical, mental, and moral perfection—constructive, dynamic living in the best environment that modern science is capable of producing Its purpose is to bring to the student, and through him to his community, the principles of hygiene and sanitation, as they pertain to him, to his home and to his vocation

Instruction to produce the necessary education—to promote this essential cooperation in making sanitary improvement more nearly commensurate with sanitary knowledge—must present a demonstration so clearly as to make the proper deduction inevitable Periodic physical examinations, personal conferences, physical education, sanitary inspection and didactic instruction offer this opportunity for a student health service to make a distinct contribution to public health

PHYSICAL EXAMINATIONS

A thorough physical examination benefits the student, the community and the medical profession It warns of dangerous conditions of which the student may not have been aware Persistent albuminurias, unsuspected heart lesions and unrecognized hernias are frequently found Their discovery and treatment mean a longer period of activity in those who, by special training and experience, are to be of great value to society Students with these abnormalities or with previously unrecognized astigmatism need little instruction or encouragement to become advocates of medical supervision of school children

The necessity of compulsory physical examination at registration is not always understood until a large percentage of those examined have been called for reexamination and advice concerning errors of refrac-

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

tion, carious teeth, flat feet, curvature of the spine, incorrect posture or other defects. Then the significance of the requirement becomes apparent, and students freely express their appreciation of the opportunity they have been given to ascertain their physical condition. Certification of physical health, as a prerequisite to entering athletics, and prescriptions for corrective gymnastics further emphasize the importance of physical examination. The establishment of a sympathetic attitude in the mind of the laity toward health measures is of the utmost importance, if public health is to attain its greatest advancement. While it is usually difficult to make those who think they are well show great interest in 'how to keep well," the sick and defective are easily interested in the fundamental principles of corrective and preventive medicine.

Unhappily, certain students must learn that their defects make it necessary for them to revise their plans as to courses to be pursued in the classroom and in physical education. Their misfortune will, to a considerable degree be compensated if they carry over into life an appreciation of the relation of physical and mental adaptation to successful careers and to efficiency in occupation.

In physical examinations, the students are required to undergo anthropometric measurements, and the observation of a dentist, an aurist, an oculist, a laryngologist, a clinician and a surgeon. They must also submit a specimen for urinalysis. A number have revealed to them, for the first time, the meaning of specialization in medicine, a discovery of value both to medical practice and to public health.

The findings of the physical examinations of a large number of recent graduates of public schools serve as an index of the efficiency of the departments of physical education and of medical supervision. If the health services of institutions of higher learning will adopt a "follow-back" as well as a "follow-up" system in dealing with defects of registrants, they will be able to cooperate with the schools from which the students come, to mutual advantage. The examination of many young men and women will be of great help in making generalizations of public health value. The facts obtained in such instances and the careful following of the graduates should lead to interesting observations concerning the cause of the so-called degenerative diseases and the influence of occupation and habits in relation to them.

Physical examinations and the conferences following them afford opportunities to release minds from the thraldom of imaginary ailments, from the evil of misdirected sympathy and from the introspection and depression created by charlatanism and quackery. Advice, encouragement and mental prophylaxis lead to the establishment of the proper attitude of mind, which is essential to the prevention of subsequent burdens on family and society.

CONFERENCES

A health service encourages the student to seek information whenever he thinks his health requires it. While this policy brings in trifling injuries and slight ailments, it leads to the discovery of potential or incipient conditions that need attention. The community is better protected against communicable disease, and the student avoids illness and infected wounds.

Conferences afford an opportunity to view the stress and strain of modern education on the central nervous system under varying conditions. They reveal the handicap of bad habits of study and of the wrong types of recreation. They bring to the surface the blight of worry, the far-reaching effects of unhappiness and depressing environment on cerebral efficiency. They present a chance to demonstrate the potency of psychotherapy, the benefits to be derived from the proper mixture of work, play, and social intercourse. They emphasize the wholesomeness of optimism.

Frequently these conferences deal with subjects not immediately affecting the student's health. He may ask for some data in connection with a hospital in which his father is interested. He may want plans for a sanitary outhouse for his country home, references to some form of public health work on which he is writing a long theme, or a list of text books suitable for the high school students to whom he will teach hygiene next year.

Former students frequently write letters or call for information concerning some phase of hygiene and sanitation in which they are particularly interested. On the day this article was written three letters arrived, one from a graduate in journalism, specializing in advertising, who requests data concerning tooth-paste. He wishes references to aid in adequately describing his product. A second asks for methods of destroying mosquitoes, while the third wishes to borrow a set of slides on 'school sanitation."

In many of these conferences, questions often arise which involve medical tradition or touch on problems of medical practice. They offer an opportunity to show the future community leaders that medicine is rapidly changing from an art to a science, based particularly on chemistry, physics and biology. Students must learn that results in medicine are not haphazard, but that cause and effect follow in logical sequence, as they do in experiments in the laboratory. There are still too many intelligent people who think medicine is a medley of tradition, mystery, long-sounding terms and personal opinions. In removing this false conception from the public mind, modern medicine has much to gain, nothing to lose.

EDUCATION

The great contribution of a health service to public health is the education of the student to appreciate the importance of hygiene and sanitation to himself and to his community. The mere introduction of an elementary course into the required curriculum of an institution of higher learning is not without significance to preventive medicine. Greater emphasis must be placed on the fact that dissemination of knowledge essential to self-preservation, is the first duty of education.

What the universities and colleges should do in the teaching of hygiene depends largely on the amount and nature of the instruction given in the grade and high schools from which their students come. For the present, the equivalent of three hours a week for one semester would not indicate an undue emphasis on hygiene. The time might well be divided, two thirds to general, and one third to vocational hygiene, the former to be required of all students during their first semester after matriculation, and the latter to be taught later, in connection with their professional training. The instruction should be both didactic and practical, and ample opportunity should be given for the students to confer with their instructors and with members of the health service staff.

Members of the staff of the health service, in their daily contact with students, have an excellent oppor-

tunity to give practical significance to the didactic and laboratory instruction in courses allied to medicine The student finds new interest in zoology or entomology when the relation of protozoa to dysentery or of insects to disease is discussed during a consultation for enteritis or malaria The overlapping of the problems of sociology and medicine are particularly attractive to the man or woman studying social evolution, charities, population or criminology The senior in the engineering school will exchange information with the sanitarian concerning the problems of Panama, the Rand or the Hudson Tunnel, with the keenest interest and to mutual benefit Even the tyro in chemistry, wrestling with the mysteries of affinity, is not immune to a simple statement of the principles of chemotherapy

The student's familiarity with the work of a health service has a high educational value Members of its staff should see that the student learns that the waiters dish-washers, cooks, dairymen and other food handlers employed by the university are examined physically, in order to exclude those with communicable diseases from handling food, and that they are vaccinated against smallpox and inoculated for typhoid fever, in order to protect the patrons of cafeterias from disease In institutions in which a considerable amount of student help is used, this lesson becomes very practical The requirements of the student officers' reserve corps and the advice of heads of departments of bacteriology and sanitary engineering that their students be vaccinated and inoculated further emphasize the importance of immunization

A case of diphtheria properly handled in a fraternity house will do more to demonstrate the value of antitoxin, the use of the Schick test, the danger from carriers and the necessity for isolation than several hours of didactic instruction It presents a demonstration whose significance remains throughout life It creates a respect for quarantine and promotes a spirit of cooperation in the prevention of disease

A health service greatly aids in the promotion of public welfare by the cultivation of an appreciative attitude toward hospitalization. Many of the most intelligent people have an unreasonable dread of hospitals, and use their facilities for diagnosis and treatment only as a last resort When students are encouraged to go to the infirmary early and conditions are such that they cannot very well be cared for at their lodging houses when sick, hospital treatment is expected It will mean much to public health to have our college graduates understand that they can obtain better care for themselves and for their families in a well-conducted hospital than at home What will this mean to maternal and infant welfare, to diagnosis, to treatment and to the equipment and maintenance of hospitals?

SANITATION

Environment is the best laboratory for instruction in sanitation By cooperation of the offices of the supervising architect, the superintendent of buildings and grounds and the health service, the necessary apparatus is provided for effective teaching The care of the campus, the style of buildings and variation in equipment, with their age, their methods of ventilation, heating and temperature control, means for provision and determination of humidity, lighting system, types of drinking fountains, sanitary plumbing, regulations for the care of the swimming pool, etc , are mute instructors, demonstrating the present conception of sanitation, and its evolution during the last few decades

If the school does not have dormitories, or they are so restricted as to require a large number of students to live in private lodging houses and to eat at such places as may be available, conditions arise that make a sanitary survey imperative Lunch counters spring up in unexpected places and pie-wagons vie with one another in seeking strategic locations with reference to student traffic As many students are compelled to live as economically as possible, they must patronize the cheaper places Proprietors of lodging and eating houses would show a lack of business ability if they did not give some attention to their financial returns

This combination of circumstances converts the student district into a community health unit, with all of its problems in the prevention of disease and the maintenance of health Here the health service operates, educating, creating public sentiment, encouraging and urging a demand for sanitary improvement It cooperates with the local boards of health, with public-spirited citizens and with the students, in helping to bring about the living conditions that make the college community one of the most attractive in which to live To interest a number of intelligent men and women in the sanitary improvement of their surroundings is to prepare them for better citizenship by their enlistment in the advancement of public health

Today, departments of health must teach by lectures, exhibits, pamphlets and propaganda, in order to produce the necessary education of the laity to overcome the resistance of ignorance and of short-sighted cupidity to the widest application of well-established methods to the promotion of public health They are compelled to give instruction that should be a part of the required courses of schools and colleges Unless the acorn of sanitation is planted in the schools, it will be many years before the oak can be used by departments of health in the erection of magnificent edifices of community and national health, commensurate with scientific knowledge In the sowing of the seed, a health service offers helpful cooperation with all organizations interested in the advancement of public health

A student health service and a school of hygiene are complements The first creates public sentiment and obtains moral and financial support for public health work The second trains experts for leadership and research The former strives to permeate the masses with elementary science as used in the promotion of health, the latter to produce torch-bearers and pioneers in preventive medicine

Is it too utopian to believe that the united efforts of the graduates of our institutions of higher learning, the staffs of departments of health the faculties of the schools of hygiene, and the medical profession are able to bring into existence those living conditions which are the goal of preventive medicine—the essence of applied Christianity?

ABSTRACT OF DISCUSSION

DR JOHN SUNDWALL, Ann Arbor Mich The third who failed to pass the normal tests for physical fitness as revealed by the draft examinations, the 80 per cent of our school-children who have defects that will make it difficult for them to make the proper social adjustments later on in life, the appalling number that must go onto the human scrap heap during that adult period of life when one should be enjoying to the maximum life and its various activities, and when one should be of the greatest economic and social value—these are responsible, in the very largest measure, for the tendency

of public health interests and activities to concentrate more and more on personal fitness or physical efficiency as one of its chief objectives No other institution offers better opportunities to develop this newer and broader conception of public health interests, health efficiency, than does the university Each student must be instilled with a profound appreciation of what physical efficiency means to his success and happiness and his value to society So saturated must the student become with the ideals and standards of health efficiency that he will feel that it is his moral, social and civil obligation to achieve and maintain a sound, active, vigorous, dextrous and harmoniously developed body In order to reach this objective—an appreciation of, and a desire for positive health on the part of the student—health efficiency should be made one of the basic divisions of university work The administrative officers and the faculty must become permeated with these ideals and standards The chief health officer of the university should sit in all the councils of the university s administration He should be given similar authority and dignity to that now ascribed to deans Furthermore, the university should require of all its entrants evidences of health and physical efficiency The thoroughgoing physical examination should be required of all entering students prior to registration These should be repeated annually Personal fitness and efficiency should be made a requirement for participation in the active life of the university The benefits, honors and awards of the university should be conditioned by the health and physical efficiency of the recipients Students should not be graduated who because of ignorance and neglect have allowed their body machines to run down" Assuredly the state is being cheated when the university underwrites physical defectives as capable of serving and directing society Let us develop a university type of physique It is precisely along these lines that the university can serve the public health movement best The university has the opportunity and possesses the facilities to attain these physical efficiency ideals Students later on in life become the leaders in their respective communities Thus these ideals and standards of health will radiate out into society

DR J HOWARD BEARD, Urbana, Ill I would like to emphasize what Dr Sundwall has said and to point out that a health service is an economic necessity

MALARIA CONTROL OPERATIONS IN RELATION TO THE ULTIMATE SUPPRESSION OF THE DISEASE*

C C BASS, MD
NEW ORLEANS

In his book on "The Prevention of Malaria," Sir Ronald Ross[1] shows by elaborate mathematical calculations, and in quite a convincing way, that sufficient reduction in the anopheline density in a given area would ultimately result in the complete disappearance of malaria from the area without the reduction necessarily being carried to total elimination of anopheles In other words, it is not necessary to secure 100 per cent of anopheline control to secure 100 per cent of control of transmission of malaria This is based on the small proportion of the total number of anophelines produced, which chance to live long enough, bite favorable gamete carriers and later bite other susceptible individuals In a large area, especially one not densely inhabited, there must be many thousands of anophelines produced, on an average, to one that actually transmits malaria He argues, therefore, that, if the anopheline density is reduced to below this theoretical point, malaria will ultimately disappear On the other hand, reduction of the number of carriers by curing the infection would not eliminate malaria entirely unless every infected person in the locality was disinfected and no others came in, provided, of course, that the anopheline density remained the same

This is based on the assumption (which I am bound to think is correct) that the anopheline density and malaria prevalence would be evenly distributed and that the reduction resulting from antimosquito operations or from treating the carriers would also be equally distributed over the area under consideration As a matter of fact, it seems to me that, in practice, the very opposite would probably be the case There is no reasonable probability that either antimosquito work or cure of carriers will be evenly effective over any very large area In any such large area, there would almost certainly be spots that had been overlooked or were insufficiently sanitated, where prolific breeding would continue, although breeding over the area generally had been reduced to below the necessary extent to permit transmission If such less well controlled spots were favorably located with reference to malaria carriers and susceptible persons, transmission would continue there and malaria would continue to be present indefinitely This would be the case, however effectively the other part of the area was controlled

The same thing is true with regard to control by curing carriers. Although all carriers in a small area, including a small group of people, may be cured of their infection, so that no further transmission will take place, no such thing can be hoped for when large areas, such as whole counties or states, are considered There will be some carriers not discovered, others may not be disinfected by the treatment taken, and others may refuse treatment If such carriers are favorably located for transmission with regard to anopheles breeding places and to other persons, transmission will occur and malaria will not disappear So far as I know, no intensive quinin control operation has been so successful in any large area as to eliminate all the carriers Therefore malaria has not been completely suppressed in this way, nor do I believe that it can be Neither do I know of any instance in which the disease has been completely suppressed in large areas by mosquito control operations carried out for the purpose of malaria control

However, there are many instances in which developments leading to mosquito control, often more or less incidentally, have led to total suppression of malaria over quite large areas I refer especially to the disappearance of malaria in this country during the past fifty or 100 years from large areas in New York, Pennsylvania Ohio, Michigan, Illinois, Missouri and other states This did not result from any intensive anti mosquito operations, nor from screening It resulted chiefly from the mosquito control that came from the clearing, drainage and other activities incidental to the march of civilization and the development of the country for agricultural and industrial purposes Much reduction had occurred, and, in fact the disease had disappeared from large areas before the mode of transmission was known and before wire screens were used to any considerable extent

During later years, use of screens, no doubt, whether intended for malaria control only or for other useful purposes as well, has hastened malaria elimination from

* From the Tulane University of Louisiana School of Medicine
* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922
1 Ross Ronald The Prevention of Malaria New York E P Dutton & Company 1910

the areas in which these natural developments were already bringing it about. Every transmission prevented by screens, which would otherwise occur, reduces the disease in the area to that extent and tends to hasten the time when there will be no more malaria.

No doubt cure of infected persons with quinin has also favored or hastened elimination of the disease from some of these regions by the developments incident to civilization and settlement of the country. Every person cured of his infection means just that much reduction of the chance of transmission.

While both of these things, screening or other antimosquito measures and the cure of infected persons, have contributed to the final suppression of malaria in some of these heavily infected regions, they have been contributing or, I may say, hastening factors only. The real cause has been development incident to civilization and settlement. Without this, malaria would not have disappeared.

What has occurred in this regard in England and in many European countries, and in these regions referred to in this country, is in progress over practically the entire malarious area in the United States. As the country is developed for agricultural and other industrial purposes, the prevalence of malaria slowly but surely declines. If we can look forward to a high state of development of the entire country, so also can we look forward to suppression of malaria, however much or little intensive malaria control work is done. At the present rate, it will be a long time until malaria has entirely disappeared. It will disappear, however, depending on whether, or when, settlement and development goes forward to the necessary extent.

The chief operations that bring about suppression of malaria are drainage and filling and clearing of the forests, not such as is done for the purpose of controlling malaria, but the much larger operations for settlement and development. The only permanent part of our present intensive malaria control operations is the permanent drainage and filling operations.

Since suppression of malaria inevitably results from the slow march of civilization and development, health agencies are interested chiefly in promoting such activities as will favor and hasten this result, especially those more or less temporary measures that lessen the prevalence of the disease during the period of more permanent development. This includes both antimosquito work and the proper treatment of infected persons with quinin. Each is useful, and they should generally go hand in hand. There are few instances in which antimosquito work would not be more effective in less time if combined with cure of the carriers. There are also few instances in which quinin control activities would not yield better results if combined with more or less mosquito control. The question is which is the more important and what proportion of attention should be given to each.

When considered from the standpoint of control of malaria in small areas, mosquito control has several decided advantages. The sanitation necessary tends to control other diseases and nuisances, while quinin does not do so.

When we compare the two measures from the broad standpoint of reaching the real malaria problem of this country, I believe that we must look to quinin as a most important factor. However much more desirable mosquito control may be, and however effective it may be in small areas, it must be practiced on a much larger scale than it has been in the past if it is really to effect the malaria prevalence over the whole country to any considerable extent.

Whether intensive mosquito control operations can ever have much influence on the big malaria problem of this country depends largely on the area that it is possible to reach in this way, compared with the area over which malaria prevails. Cost in money and man power and supervision or direction is a large item. In fact, this is one of the limiting factors. However certain the results might be, if the necessary resources cannot be obtained, the method cannot be applied.

Numerous demonstrations of malaria control by eliminating mosquitoes in small areas, chiefly towns and villages, have been made during recent years by the United States Public Health Service, the International Health Board and state boards of health. Many of these have yielded about as perfect results as could be asked for, constituting most convincing demonstrations of the effectiveness of sanitation.

I do not think the total area ever covered by intensive mosquito control work in this country, including the extracantonment zones during the war, would exceed 2,000 square miles (5,180 square kilometers). This is less than the area of three good sized counties. This is not more than one five-hundredth part of the total malaria infested area of the country. This emphasizes the fact that these operations have had little effect on the total malaria of the country, however completely malaria may have been controlled where they were conducted.

The cost of malaria control operations involving mosquito control by sanitation under experimental conditions or under such conditions as existed during the war does not serve as a suitable basis of cost. It costs much more under such conditions than when done under more favorable conditions.

A thing cannot be done unless the cost can be met. I refer to the cost not only in money, but also in other resources. I believe that those familiar with the most favorable of these successful operations must fail to see how the same operations can ever be applied to the entire malaria infected area of this country.

It must be recalled also that most of these operations have been carried out in towns and cities in which there is a more or less dense population and, by the way, where there is comparatively little malaria. The per capita cost, therefore, was comparatively low.

When we transfer mosquito control by similar intensive methods to the rural part of the country, where the malaria problem really exists, the per capita cost becomes much greater. In fact, it becomes so great that the extent to which such work can be done is certain to be limited. It cannot be done to an extent sufficient to affect seriously the total malaria prevalence.

The least expensive intensive mosquito control operations usually involve the expenditure of hundreds of dollars per square mile. An expenditure of even $100 a square mile would amount to an enormous sum if applied to the more than half a million square miles in the United States where malaria prevails. I do not question that it would be well-spent money. Nevertheless, it is money that would not otherwise be spent, and therefore represents new money.

Such antimosquito measures as screening homes also represents the expenditure of money that would otherwise not be spent. Do not misunderstand me. I most assuredly favor screening all homes where malaria prevails, as well as others. It would certainly cut

down the malaria rate tremendously, but it would be done at an enormous outlay of money for the purpose It does not matter whether antimosquito measures are carried out as a part of an intensive plan involving considerable effort and perhaps expenditure of money by the health agency behind it, or whether it is done by the people themselves as a result of publicity and educational work, it still represents an enormous outlay of money for prevention of disease that would otherwise not be spent It is true that it would still usually cost less than the disease it prevents

Let us now look, from the same standpoint, at the control of malaria by cure of infected persons with proper quinin treatment, to see whether it is likely to be correspondingly expensive and, as a result, equally difficult of application to the whole malarious region of the country People who have malaria may take proper quinin treatment to cure their infection, as a result of either intensive control operations which include this measure, or a general publicity resulting in making the supplies of standard quinin treatment available for those who need it, so that they will purchase it in place of other less effective remedies, or on the advice and directions of physicians who give their patients the proper treatment In either case, I feel sure the cost of the necessary quinin would be less than the average cost of the other remedies that would be purchased at the same time if the standard quinin treatment were not used If this is true, control by quinin involves only the expenditure for medicine of money that would be spent for other medicine No new money is required

Therefore, so far as cost is concerned, quinin is applicable to the whole malarious region of the country without cost, except for such publicity, propaganda or other activities as are necessary to get it done In this respect, quinin control has a decided advantage over mosquito control, which involves outlay of so much money that would not otherwise be spent For this reason, I believe quinin control is likely to prove a much greater factor in contributing to and hastening the suppression of malaria, in large areas or in the country as a whole, that inevitably results from development, than mosquito control operations undertaken for the purpose of controlling malaria or mosquitoes, so far as methods are known at the present time

If this opinion is correct, among the most important activities of health agencies interested in malaria control are those that lead to the provision of proper quinin treatment for persons who have malaria The rapidly increasing adoption of the standard quinin treatment by physicians and the growing use of it in place of the many less effective remedies offer much encouragement to workers in this field If this continues, it is reasonable to expect that it will hasten and contribute to the ultimate suppression of the disease in large areas in this country

SUMMARY

1 Malaria has disappeared from large areas in this country and in other parts of the world, chiefly as a result of development of the country, including drainage and clearing of the forest, incident to agricultural and other industrial pursuits

2 Malaria prevalence is slowly but surely decreasing over practically all of this country, as a result of the steady march of civilization and settlement of the country

3 This process may be aided and hastened by antimosquito measures or the proper use of quinin Health agencies are interested in encouraging these measures

4 The only part of our present malaria control activities that actually lead to ultimate suppression of the disease is permanent drainage and filling operations All others are temporary and must be continued indefinitely, or the tendency will be toward a return to former conditions

5 The cost of intensive antimosquito operations for malaria control is so great that they have not been applied to a sufficiently large part of the total malarious area of the country to effect seriously the total prevalence of the disease

6 The cost of such malaria control as results from infected persons taking proper quinin treatment does not involve any cost over the amount that would be spent for other remedies Therefore, it is applicable to the malaria problem of the country as a whole, and should be emphasized and encouraged by health agencies interested in malaria control

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ABSTRACT OF DISCUSSION

DR L D FRICKS, Memphis, Tenn Dr Bass is one of a very small group who, having realized the importance of malaria to the South and its blighting influence on agricultural and industrial development, have fought for its control year after year I am in thorough accord with all that Dr Bass has said as to the importance of adequate quinin treatment in controlling malaria Certainly, malaria has been controlled in some localities by the use of quinin In a county of 25 000 population heavily infected with malaria, the U S Public Health Service, following the methods employed by Dr Bass in Mississippi, demonstrated that malaria could be enormously reduced by the general distribution of quinin in proper dosage The U S Public Health Service has approved the standard quinin treatment for malaria and recently has issued instructions that all patients in Public Health Service hospitals be given this treatment in preference to other methods of administering the drug, and advised that no malaria patient be discharged as cured immediately on the disappearance of active symptoms It should not be forgotten, however, that the U S Public Health Service has also demonstrated in many places that malaria can be controlled by drainage, that it has been frequently controlled by top feeding minnows, by proper screening or by oiling and that over large areas it has even disappeared in the wake of agricultural development without effort or deliberate intent on the part of the people concerned Knowing these facts, I cannot find myself in accord with any seeming reflection on any of the methods of malaria control just mentioned They all have their limitations and their uses but the malaria problem is so huge and local conditions are so varied that we must avail ourselves of all approved methods in stamping out this disease, relying more on one method in this community, more on another in that, and combining them all, if local conditions demand a combined attack I feel that too much importance has been attached by the advocates of each method of malaria control to the direct results obtained by them in their investigations or demonstrations This is only natural of course, but to my mind the educational value of a successful demonstration in malaria control is of far greater importance than any immediate result that can accrue in the United States for some years to come Education of the people and the fitting of malaria control into the permanent health program of the different state health departments are the big things to be done in the fight against malaria at the present time

DR M P RAVENEL Columbia Mo One point was not touched on, namely permanence of results, though Dr Bass did say that if the civilization of a country left it, as in the

case of the Roman Campagna, then malaria would return As I see the matter, it may be put thus Where drainage or filling is carried out, malaria is banished from that particular place for all time When malaria is controlled by quinin, it may clear up, but it will always spread from the borders of the cleared up district toward the interior The effect of quinin, in other words, is only temporary Drainage, filling, etc, are permanent measures, and in the consideration of the relative costs of any procedure, these points must always be borne in mind

DR ISAAC D RAWLINGS, Springfield, Ill There was a time when malaria was a very prevalent disease in northern and central Illinois It is said that in those days quinin was set on the table at mealtime with almost the same regularity during the malaria season as was the sugar bowl or salt and pepper shaker I recall vividly in Kansas in the early days how I and my brothers and sisters had to take 'that bitter stuff" and how the good mother kept track of the "chill day" of the individual members of our family It meant a bigger dose of quinin the night before and the morning of "chill day" As I recall the modus operandi of the "quininization" of those days I feel sure that many of us discontinued treatment too soon as relapses were frequent, but the very general use of the remedy in the various communities cannot be questioned I cannot escape the conviction that tile drainage, at least in northern Illinois and other Northern states, had more to do with the elimination of malaria and the permanent solution of our malaria problem than did the very general use of quinin Through the widespread educational propaganda advocated by Dr Bass, people can undoubtedly be persuaded to use quinin to a considerable extent, but education is not and cannot be made a "cure all" in malaria campaigns, for results are slow in achievement, owing to the relative indifference of the individual both as to his personal welfare and the best interest of his neighbor, even if he is intelligent and all the facts have been presented in the most convincing manner Education per se will not remedy the malaria situation, because the malaria carrier looms so large as an important factor and the difficulty of imparting the importance of the 'cure to completion" to the average lay mind is too great to give promise of the necessary high percentage of efficiency Many persons with all the facts presented discontinue treatment long before the eight weeks' prescribed course of treatment is completed The method advocated by the author is one of the most important of several methods of control, but experience has abundantly shown in many areas that the former swamps which are today the most habitable and desirable places to live in were made so by a combination of thorough treatment, elimination of the malaria carrier, drainage or filling in of swamps and pools where possible, substitution of larvicides for drainage or filling, removal of obstructing underbrush, use of 'top minnows', the screening of houses, and the control of water containers We may regard the control of malaria as a short chain consisting of the three links (1) infected persons, (2) anapholes mosquitoes (the connecting link) and (3) the noninfected person An aggressive attack on any one of these links in time, if 99 per cent effective, will solve the problem

DR S W WELCH, Montgomery, Ala The South has virtually admitted this malaria problem, and has gone about the task of getting the best methods possible to rid itself of the stigma of having a disease which is not common to other parts of the United States The U S Public Health Service and the International Health Board have come to the assistance of the state boards of the South, and state-wide malaria campaigns are now on The work is being carried on in a systematic way directed by Dr Fricks, whose headquarters are at Memphis All the Southern health officers and all the state boards of health have accepted the leadership of the U S Public Health Service in this work and we are actually eliminating malaria from the Southern states In my own state, Alabama, since 1917 the number of deaths from malaria has fallen from 530 in 1917 to 231 in 1921 There will be fewer deaths this year than there were last year This campaign is a vital organization, and we expect within ten years to show you the fairest country in the world entirely free from special health problems Large drainage projects are being promoted all over the South In 1916, top feeding minnows were put into the impounded waters of the Coosa River The state board of health has aided in the distribution of them, until now there is not a little branch that is not filled with these little fish which feed on the mosquitoes

DR W C WOODWARD, Chicago There is one aspect of malaria control we often overlook We are staggered by the enormous cost of filling and draining mosquito breeding lands because we view the matter only in the light of an annual appropriation We do not view such projects as we should, not from the standpoint of one year or even of five or ten years, but from the standpoint, as Dr Ravenel has pointed out, of all time If you cannot spend a million dollars this year for filling and draining, possibly you can spend a million dollars in the course of twenty-five years and in that way blot out malaria There is another financial point often overlooked, and that is the actual money return that drainage and reclamation projects bring through increasing the value not only of the land drained and reclaimed but also of land for considerable distances in all directions around It is only fair that those whose lands are benefited be assessed to the extent at least of the value to which their lands are enhanced by the improvement If we deduct from the cost of the average reclamation project the value of the land reclaimed and the amount of the enhancement of values of nearby property, I am quite sure that the cost of permanent abatement of mosquito breeding nuisances will be very much lower than appears at the first glance

DR C C BASS New Orleans Dr Fricks feels that perhaps the discussion is to some extent a reflection on the other methods of malaria control That is just as far as could possibly be from my intention He misunderstood me There is nobody who appreciates more than I do the absolute control of malaria that can be accomplished by mosquito control measures The point I wish to make is that the only method that is applicable to the malaria problem of the whole country at present is quinin control It can be brought about by publicity without cost except for the comparatively small cost of the publicity required On the other hand, any mosquito control undertaking for malaria control is too expensive to be applicable to a very large area I quite agree with those who have entered into the discussion that the only permanent malaria control that we are getting is the result of permanent drainage and filling operations Our temporary mosquito control and our quinin control are simply temporary measures which ultimately will lose their force if neglected or discontinued However, the work that is being brought about by the natural development of the country, and this intensive work in permanent filling and drainage operations, will finally bring about the desired results I wish also to point out that the disappearance of malaria from Illinois and Kansas, referred to by Dr Rawlings, was aided by the use of quinin, which no doubt hastened the process *The purpose of my paper was to emphasize* the idea that we ought further to encourage more extensive proper use of quinin and hasten the process of malaria reduction that is going on all over the country just as it has in these states Dr Welch pointed out that the malaria death rate in his own state had been reduced perhaps 50 per cent in four or five years That is probably largely due to the wide publicity that health officers and their assistants have given to the proper treatment of malaria I believe that quinin is one of the most important contributing factors in the reduction of the death rate from malaria that has occurred in his state and in most of the other Southern states during the last few years

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Tobacco Angina Pectoris in Women—A recent editorial in the *Journal des Praticiens* of Paris states We have recently seen two young women with angina pectoris for which tobacco was responsible As the women were young and not syphilitic, they have apparently thrown off the disease"

THE MUTUAL INTEREST OF THE PROFESSION AND THE PUBLIC*

W S RANKIN, M D
Secretary, North Carolina State Board of Health
RALEIGH, N C

The profession and the public have a large mutual interest which unites them in a common task and draws them toward a single objective That interest consists of a surplusage of unnecessary, untreated and inadequately treated disease and impairment, which, in its totality, constitutes a waiting field of medical practice from two to five times greater than the present occupied field of medicine The last statement constitutes the major premise of this paper, and is so related to what follows as to make its assimilation by the digestive or analytic process advisable before other related matters are considered We turn, then, to a brief and rather general analysis of the unoccupied field of medicine

Beginning with maternity, we find from 25 to 35 per cent, say an average of 30 per cent, of the births of this country, a total of approximately 750,000 births a year, unattended by physicians These women pass through the valley of the shadow of death with no ray of the light of science to dispel its gloom, and with only the flickering candle of the midwife to guide them through their travail Add to the labors without medical attendance the enormous unsupplied need for medical supervision during pregnancy, add again need of the puerperal state for medical care so inadequately supplied, and you have an uncared for field of maternity from two to five times the size of that which is cared for

From infancy, we pass to childhood Add absent, delayed and inadequate medical attention to the cases of acute diseases of early life—measles, whooping cough, scarlet fever, diphtheria, meningitis, early manifestations of tuberculosis, etc—and add to that the needed treatment for the common defects of childhood (how significant the term), the 20 per cent or 4,000 000 public school children of the country with defective vision, the 75 or 80 per cent or 15,00,000 public school children whose mouths need treatment, in order to prevent subsequent digestive disturbances, rheumatism and cardiovascular damage, and the 5 per cent or 1,000,000 public school children who need operations for tonsils or adenoids, and again consider the relative sizes of the occupied or unoccupied fields of medicine

From childhood, we hasten on to adolescence, the age of sex awakening and social restraint of the sex impulse, the premarital state Here we find susceptibility to, prevalence of and damage from venereal diseases greatest With syphilis causing one tenth of all deaths, producing 20 per cent of the inmates of our institutions for the insane (whose total population approximates the population of our universities), with gonorrhea as the chief cause of sterility and the principal contributor to the gynecologic wards of the hospitals, with its enormous drag on efficiency and industry—in combination, a group of diseases which in the height of the war took more men out of the line of battle than shot and shell and gas—and you have a field of medicine that largely sustains three specialties, gynecology, genito-urinary surgery and skin diseases, and, in addition, generously contributes to the general run of the practice of medicine How much of this enormous field is occupied? From 16 to 20 per cent of the venereal diseases are reported by physicians,and perhaps not more than twice that percentage, 30 or 40 per cent, are treated by the profession Of the cases that are seen by physicians and treated by them, it is safe to say that even those cases do not receive or take one third of the treatment that is needed in the interest of both the individual and the public No one well informed as to the prevalence of this group of diseases can seriously consider the treatment given as compared with the amount of treatment needed without again agreeing that the unoccupied field in this sector is from two to five times greater than that which is adequately held by the forces of science

Again, we hasten on We have arrived at adult life In the interest of time, we introduce but one witness, but that an altogether sufficient one for the question involved The Life Extension Institute of New York, in the last two years, has examined about 250,000 people, of both sexes, all races, engaged in various industries and living in different parts of the country, the persons examined being selected indiscriminately with reference to appearance The institute found that about 60 per cent of those examined were in need, at the time of examination, of medical treatment, and not more than 20 per cent of those needing treatment were receiving it In short, it was found that, in adult pathology, the field was about one fifth occupied and four fifths unoccupied

Truly, the fields are white unto the harvest, but the laborers are few This great surplusage of disease makes the interest of the profession and the public one, binding citizen and physician in a common purpose coupling the determination of the public to remove disease surplusage with the ability of the profession to bring about the removal Let those shallow minds and timid souls among the brethren who fear or feign to fear a curtailment of professional opportunities and rewards both material and immaterial, remember that only through the use of medical science, only by making the field of medicine larger and more attractive can this waiting, unoccupied field of medicine be reclaimed from the domain of ignorance and need

DEVELOPMENT OF THE MUTUAL INTEREST

Medical science cannot hold the nose of the public and pour remedies down its throat, it is not a child incapable of thinking, insusceptible to advice and reason The need of remedies and the value of remedies must be explained to the patient, and a desire to be treated created in the patient's mind In short, a greater demand for the application of medical science to the existing surplusage of disease must be developed

INCREASING THE DEMAND

In increasing the demand for medical science, in intelligently enlarging the usefulness of medicine, we have an educational problem confronting us Intelligence appreciates, uses and pays for medical science, but ignorance neither appreciates, uses nor pays

There are two principal ways of developing this educational work One way is by the written word, bulletins pamphlets, press articles and literature in various forms The other way is by the living voice addressed to individuals collectively The first is the method of the Bible, the second, that of the preacher

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

The first way is the usual method pursued, and, in general terms, about the only method available for such central agencies as federal, state and associational health services, furthermore, for most local health agencies, in which personnel in proportion to the population to be reached is limited, education by the written word is the method that has to be depended on very largely The second way, the living word, is a method that exists potentially rather than actually It is needed for close-up work, it has the element of personal contact which carries, in addition to the letter, the spirit that gives it life, it is the only way that a large, unreading, potentially influential voting population gets its information and its inspiration The first way, by the written word, scattered broadcast through printed page from some long distance agency, is helpful and is necessary as is the barrage in preparation for a hand to hand fight, but the second way, by the meeting of the masses in person, talking to them collectively, answering their individual questions before collective groups, dealing with them as man to man, is as necessary to carry the strongholds of superstition and prejudice for the forces of science and progress as is the infantry attack in battle

It is not necessary to discuss here public health education through the written word We are all familiar with that I do, however, want you to consider carefully the need and the potentialities of educational work through the living voice, directed toward raising the popular intelligence with respect to the prevalence of disease and impairments and the more extensive use of medical science Consider, if you will, the weak position of our church or denominational organizations if these organizations depended on their state publications, their correspondence and their traveling evangelists, having no local and fixed group to do the collective educational work through the living voice, following this with pastoral or case work which the preaching makes possible and extends Our local physicians, members of county medical societies, make their pastoral calls to heal the body sick physically as the minister makes his local call to heal the body sick spiritually, but they do not complete the local minister's program, they do not speak to their congregations, they do not preach the gospel of good health, of right living here, they do not teach the people collectively

The county and local medical societies, particularly the rural medical societies, must become better organized for other purposes than merely to meet once a month, discuss differences of opinion with respect to scientific problems and occasionally construe the code of ethics They must become organized to meet their social, collective, larger and common opportunities and obligations to what Dr Osler used to refer to as the larger audience

Our units of medical organization are so constituted today as to inhibit rather than encourage the education of the local people collectively by the living voice of their own physicians Let some member of the average county medical society begin to make public addresses in his county on subjects in which he is especially interested and which are of far-reaching importance to the general welfare no matter how worthy his purpose and how well performed his task, he unavoidably takes an advantage of his fellow practitioners, in that he, in educating his own people collectively, inevitably advances himself personally, he is looked on askance by his fellows is called an advertiser is discouraged, and suspends operations Only the outsider from some distant point can speak to the people of the county without the risk of suspicion

Suppose, on the other hand, that the average rural county medical society, say with twenty-five members, selects twenty-five subjects which will include 90 or 95 per cent of the information on hygiene and health that the county people need, and secures the promise from each of its members to speak or read once each month an address or paper which the county society writes, or secures from some outside source and finally adopts as its own address Note that the address or paper is now not that of the person who presents it, but is that of his profession Such a program would mean a total of 300 public addresses during the year, which, given to average audiences of only 100 people, would reach a total audience during the year of 30,000, that is practically the entire population of the county Under such an arrangement, collective medicine would make contact with collective thought, and no outsider, federal official, state official or any one else could come between the local group of physicians and their own people It is high time that the organic units of the medical profession begin to assume their rightful leadership in public thought, the local professions no longer being content with pastoral visits and with no well considered plan of collective work for the physical salvation not only of their people but of themselves as well

SUPPLYING THE INCREASED DEMAND

As organization of the local unit of the profession, *that is, the county medical society* is necessary to increase the demand for medical science and enlarge the field of medicine, so, too, the organization of the county medical society for the purpose of supplying the increased demand will be necessary I shall touch only briefly on this phase of the subject

The primary demand will be for examinations and diagnosis The educational work above outlined will cause hundreds and thousands of those who become interested in the matter of health to wish to know whether they have an incipient or unrecognized disease or impairment, or whether, by alterations in living habits, their health may be promoted to a higher level A secondary demand that will arise in consequence of such physical examination will be a more extensive demand for treatment

In providing for these two demands, more adequate diagnosis and more adequate treatment through organized effort, it will be found that the plan of organization will involve both the local profession and the public, and will embrace both professional and business considerations—the former relating to the profession, the latter to the public The two organizations, profession and public, and the two main considerations, professional and business, will merge and find their proper relations in a public county clinic, run and manned by the profession, and financed by the community

In considering the professional organization of such a clinic in an average county of twenty-five practicing physicians, a service of four hours a week from each physician would provide 100 hours of professional service every week for the county Such a public clinic could operate two afternoons, for four hours each, every week, with twelve physicians in attendance, or four afternoons, for two hours each, with ten physicians in attendance, or four afternoons, for three hours each, with eight physicians in attendance However, the

number of hours served by the combined county medical society, and their arrangement of one day, or one afternoon, or several afternoons, and in groups of four, six, eight or ten physicians, are details for the consideration of the local county society With 100 hours a week, and with physicians working in groups as they did in examining the drafted men during the war, from 100 to 150 people a week, from 400 to 600 a month, from 5,000 to 7,000 a year could be examined

As a result of these examinations, a greatly increased demand for medical treatment will inevitably arise Those needing and seeking treatment may be classified into those who can pay and those who cannot pay The first class would be referred by the clinic to their family physician In considering the second class, those who cannot pay, the charity practice of the county, we come to the business considerations involved in this organized effort to meet the increased demand for medical science

In dealing with the business elements which enter into this problem, it will be well to observe, at the outset, that the burden of charity practice, constituting from 20 to 40 per cent of practice, should not rest on twenty-five citizens of the county, that is, on the twenty-five practicing physicians, but it is a burden which should be distributed and which should rest on the entire citizenship of the county, its 30,000 people All treatment administered in the clinic to the needy should be paid for by the public, and the funds paid in divided among the physicians serving the clinic, according to details to be worked out jointly by the county medical society and the group representing the public

In securing funds for such a clinic, the following possible sources are to be considered (1) a nominal charge against all who apply for clinic benefits, (2) local Red Cross chapter funds, (3) local funds received through the sale of Christmas seals, (4) appropriations by the city or town authorities, (5) appropriations by the county authorities, (6) an annual church collection from the churches of the county in response to the commission "heal the sick," and (7) contributions from benevolent and financially able citizens of the county With the educational work on which all this is predicated, the necessary revenue to maintain a public clinic would be assured

A business organization of interested, broad-visioned, public-spirited men and women should be effected, in order to organize the people of the county around the clinic Such a lay organization would assume two definite tasks (1) arranging for the places and notices for public addresses by the physicians, and (2) securing funds with which to finance the clinic

The local medical society would work out with this group of business men, and define on paper, the conditions under which the business group, representing the community, would issue cards of admission and requisitions for treatment to those who applied In the whole scheme, the local society, through organized effort, would assume the initiative, and approve everything that was done in providing for both the increased demand with respect to diagnosis and the increased demand for treatment

The profession at present is extensively and intensively interested in the development of public hospital facilities This is a worthy interest, and should be encouraged in every way But the hospital is something that will come only when the local county people have been informed through educational methods as to the prevalence and meaning of disease and impairment, and when they have demonstrated, through a public clinic, what can be done through organized effort in the treatment of disease and impairment In short, public organization to care for disease and impairment in an adequate way will follow and never precede professional organization We shall have organization and cooperation without when we get organization and cooperation within

ABSTRACT OF DISCUSSION

DR W S LEATHERS, University, Miss I have had the opportunity during the last several years of making observations along the line that Dr Rankin has discussed, and I believe that he touches a most important phase of preventive medicine when he emphasizes the unoccupied field of medical practice There can be no question about the fact that the surplusage in the treatment of disease is one of the outstanding phases of public health work in the prolongation of human life Reference is made to maternity and infant welfare work and the relation of the midwife to infant mortality In my own state, a careful survey has been made during the last year as to the number of midwives, and it appears that there are more than 4,000 in Mississippi, more than 95 per cent of whom are negroes It is doubtless true that about 40 per cent of all births are attended by midwives who are incompetent and uninformed It is clear, therefore, that this is a matter that should give us much concern in the conservation of the health of mothers and in the prevention of infant mortality In view of the fact that the physicians in many of the states are not well distributed in relation to the population there is at this time a considerable restlessness on the part of the general public relative to the care given them from the standpoint of the medical profession The country people are not getting the attention which they think they deserve in the treatment of disease, and therefore there is a grave responsibility on the medical profession in the working out of a better adjustment or plan in giving medical attention and care to people in rural districts It seems to me that the time is rapidly coming when there should be in every county, or group of counties a hospital which shall be available for the people requiring medical attention, and which will afford them the very best medical aid It is quite discouraging to the family living in the country, say 10 or 15 miles, who needs medical attention and has to pay the physician $3 for the first mile and $1 for each mile thereafter This situation almost makes it prohibitive for the average family to secure the necessary medical attention Dr Rankin makes it very clear that education is fundamental in the prevention of disease and in the prolongation of life If the general public were educated properly the 50 or 60 per cent who have no appreciation of scientific medicine would seek the advice of a competent physician It is very desirable, therefore that public health activities should be so directed that the people are educated not only in the science of preventive medicine, but also relative to the importance of seeking medical advice promptly when ill The prevention and cure of disease are in a way inseparably associated for the reason that in many diseases an early diagnosis means prevention as well as cure.

DR A S HERSHFIELD, Chicago We are hard put as physicians to live down the errors of omission and commission of our forefathers There was always something mysterious about medicine, and even a patient who received a prescription written in Latin regarded it as something mysterious without ever taking the medicine There was something mysterious about the doctor, in other words, he appealed more to the mysticism of the public than to their intelligence He is trying to live it down now But, in this living down and treating the public as intelligent beings we find the Christian scientists and other sects coming in with the mysteries that we are beginning to abandon, and that is why they are enjoying the vogue they are today, because we are appealing to the intelligence and they are appealing to the mysterious That is something we have to preach Dr Rankin

enumerated a number of contributions to public health work, but I did not hear how he was going about preaching the danger of medical politics That is the essential factor The chiropractors and the other cults are thriving because they get in under the law The doctors sit back and let these people appeal to the mysterious that we are trying to live down We have nothing to back us politically Why can we not be politicians? If we are right in the work we are doing for public health, why can we not have men to represent us in the legislature and not politicians who laugh at us because we have no political standing and no physician wants to get up and fight for his right, because politics is below his dignity? He is sat on, he is taken advantage of, and the things we are trying to abandon are forced on us

DR A N MCCORMACK, Louisville, Ky Having for several days listened to the vapid utterances of some of the superficial and ignorant members of our own profession who had no more conception of its possibilities than they had of the simplicity of the wonderful method of salvation, it is refreshing to listen to the words of a wise man who would lead us out of the wilderness in which some of our noisy but utterly mistaken leaders are trying to bury us There is no trouble about physicians practicing medicine in the country districts, or about physicians in our cities who are carrying on the work, the trouble is from the various commercial organizations forming in the profession We are told that America needs more organizations for physicians and that the physicians of America are interested in nothing but their own livelihood The time is coming when those who work must rise and talk and must furnish our profession with leadership if we are going to get anywhere We have stayed too long silent, or these things could not happen Dr Rankin's paper will be mimeographed and sent to every physician in Kentucky, so that it will be read in every county society Down in Panama I saw this plan in operation, and I realized that there the public is so well educated that it demands real medical service, and it takes five times as many physicians as we have in the most thickly populated section of the United States to give that service, and it is to supply that demand that we must look forward to the real future in medicine, yet we hear our little folks get up and say, "There are enough doctors There is not enough foresight in this country yet to realize the number of physicians needed when Americans are made the healthy persons they ought to be with the knowledge we have as to how to keep people well

DR RACHELLE YARROS, Chicago I want to endorse practically everything that Dr McCormack has said We cannot have too many endorsements of such good sense, courage and progressivism There are many in the profession who share his views, but refrain from expressing them If such a paper will be read not only by the physicians of Kentucky, but by all physicians in the United States, many of the doubts and fears now entertained will disappear, creating a greater tolerance on the part of the profession toward some of the newer problems of public health Many of the difficulties that we encounter in this connection are no doubt due to the fact that most members of the profession have far too little time to follow the new developments in medical work of today and the modern demands that society is making on us We must learn this lesson as quickly as possible that health education of the lay public is always helpful to the profession It always creates greater demands for the services of physicians as well as gives greater opportunity for work in new fields This can be illustrated most clearly by citing the instance of the education of the public in venereal disease control work The same no doubt can be said about tuberculosis and other public health measures such as the bill for better maternity care" as Dr Rankin stated so well My experience is that the public is now more ready than ever to receive and benefit by health education, and naturally looks to the profession to take the leadership in supplying such education Unfortunately, too many physicians have adopted a short-sighted attitude and have either stood aside or actually fought every progressive tendency in public health, making every effort to minimize the value of education of the lay public in health matters It is a pity that physicians in fighting the newer measures of public health have produced the impression among enlightened laymen and social workers that they are actuated solely by selfish considerations As a profession, we must begin to abandon our extreme individualistic attitude and train ourselves to cooperate more readily with social agencies working toward the physical and mental health of the public Public health and hygiene are not purely medical problems They have economic, sociological and psychologic aspects which we must recognize We must be willing to exchange ideas with workers along those lines When we cannot lead, we should be willing and glad to work with others on a footing of equality

DR DUNCAN B MCEACHERN, Chicago Dr Rankin simply makes a plea for what might be called historical perspective. If medical men would take a historical perspective of society, it would be quite evident that society is an evolutionary affair We can go back before the establishment of public schools, when the education of the people was detailed to individual teachers, and we can see how unsatisfactory that method of teaching would be if applied today The medical men of today are in the same position that the schoolteachers were before the days of Horace Mann They are trying to apply their knowledge individually instead of *en masse* I do not care whether you call it state medicine or not, but the activity of the medical man must be along the lines indicated by Dr Rankin The medical man has to accept the responsibility for this 60 per cent untreated disease that exists in the community The amount of disease in a community is a measure of the efficiency of the medical profession Eventually state or public health organizations will have to take over the activity of the medical man He has been in the habit of looking at the general public as something to exploit A wise physician once said to me that all professions were conspiracies against the public, that the average man is out to get something from the public instead of giving something to the public The public demands the same measure of intelligence in handling its health problems as it does in handling its educational problems Unless the medical man will look at the matter in this light, the public will take affairs into its own hands In the schools we might establish small clinics, and there should be several beds in schools for children who need tonsillectomies I think that every school should be furnished with an optical department, and glasses should be furnished the same as textbooks are

DR W S RANKIN, Raleigh, N C I want to say a few words regarding the activity or inactivity of the health officers in dealing with sectarian medicine Let us see who is responsible for it The state representatives come to the state capitol and pass laws Those laws reflect the feeling of the people back home They pass laws regarding sectarian medicine because the people back home have not been educated against the evils of quackery If physicians were organized and were in touch with collective thought, there would be no man in the state legislature voting for chiropractic and other sects It must come back to the collective work of the men in the ranks In an organized county in North Carolina, lectures are to be given to the people once a month dealing, among other things, with sectarian practice, chiropractic, osteopathy and all the other false doctrines that have preceded them, and there will be no legislative sentiment in support of them The general practitioners are the soldiers in the ranks, and if they do not become active, we shall never establish this public health work When you come to think about it, there is only one really live adult organization, and that is the church Churches are well organized What do they do with a new member? They try to get him to do something It does not make any difference whether it is teaching Sunday School or what it is, but they want him to work If he is not made active, he is not interested If the church does not get him interested, what happens? The man does not go to church except when his conscience bothers him He does not know what the church is doing He misunderstands, he criticizes he obstructs and hinders If we can get the physicians of this country actively interested in public health work, both the profession and the public will be benefited

DRUG THERAPY IN PYELITIS*

HENRY F HELMHOLZ, M D
ROCHESTER, MINN

The present study is concerned with an attempt to determine the direct mode of action of several of the more commonly used drugs in the treatment of pyelitis The action of the alkalis, of hexamethylenamin and of phenyl salicylate has been studied

First it must be said that pyelitis, in most instances, is a self limited disease, which may disappear almost as rapidly as it appears It is sometimes discovered accidentally by routine examination of the urine At other times, it may be associated with very severe symptoms, being, even, rapidly fatal, owing to renal complications Our inability to distinguish between pyelitis with and without renal involvement makes it extremely difficult to differentiate, at the onset, the severe from the mild, at present, the clinical course is the sole criterion This difficulty practically rules out the possibility of comparing the various modes of treatment by studying a given number of cases In treating the same patient first in one way and then in the other, it is impossible to determine whether the disease would not have cleared up if the first treatment had been continued instead of the second being instituted

In taking up the value of alkalization from the historical standpoint, Thompson of Edinburgh seems to have first emphasized the value of alkalization of the urine on purely empiric grounds He has given no theory of action, nor has any one given us a satisfactory explanation of its value In a recent article on the treatment of pyelitis, Browning[1] says, "The change in reaction of the urine causes the tissues to be bathed in a fluid which is more bland, and thereby enables them to combat the infection more effectually" Normal urine is slightly acid, so that the normal mucous membrane of the urinary tract is developed to withstand these degrees of acidity without damage Whether this applies also to an inflamed mucous membrane has not been determined

The question that naturally arises is whether the alkalization is merely a means of increasing urinary output and flushing the passages, or whether it has a definite specific effect The greatest alkalinity that has been found in urine of human beings is p_H 8 6, the same as a saturated solution of sodium bicarbonate Since in this alkalinity the colon bacillus grows luxuriantly, it is evident that this degree of alkalinity is insufficient to influence the clinical condition by its action on the growth of this organism The growth of the colon bacillus is not inhibited until the hydrogen ion concentration reaches from 9 2 to 9 6 Since, at the acid end, inhibition of growth occurs at from p_H 4 6 to 5, and urines with hydrogen ion concentration as high as 5 may occur, the inhibitory action by acidity alone would be possible

After the disappearance of the general symptoms, fever, malaise, anorexia, and so forth the urinary findings in pyelitis are usually as marked as before, so that it seems possible that the alkalinity might prevent the formation and absorption of toxic products producing the general symptoms Experiments were conducted in order to determine whether there is a difference in toxicity when the colon bacillus is grown in acid broth and when in alkaline broth Bacilli were grown at an acidity p_H 5 4 and at an alkalinity of p_H 8 6 for twenty-four hours, the cultures were then filtered, and the filtrate was injected intravenously into rabbits, similar amounts of the acid and of the alkaline broth being used as control The reactions were practically identical Both the alkaline and the acid broth produced a febrile reaction of from 2 to 5 degrees, the filtrates caused a slight rise of temperature and then a marked lowering of temperature The reactions of alkaline and acid filtrates were practically identical The difficulty of growing the organisms at a definite hydrogen ion concentration is that ordinary alkaline mediums in which there is sugar rapidly become acid, and acid mediums more acid Sugar-free alkaline mediums become more alkaline and sugar-free acid mediums tend to become alkaline In these experiments, an excess of sodium bicarbonate was added to the alkaline broth and a buffer mixture to the acid broth, so that the hydrogen ion concentration after twenty-four hours was within two tenths of that before inoculation

A number of observers have said that if alkalization does not clear up the infection, the rapid change to the use of hexamethylenamin and acidification proves effective This treatment may owe its effectiveness entirely to the action of the hexamethylenamin, on the other hand there is a possibility that the beneficial effect is due to the lag observed in the growth of bacteria when their culture medium is changed The lag is the time required for the bacteria to acclimate themselves to their new surroundings The change from acid to alkali, and vice versa, might tend to retard the development of the colon bacillus We, therefore, studied the rapidity of multiplication of the colon bacillus when grown in acid broth and transplanted to alkaline, as compared with that of one that was grown in alkaline broth for numerous generations, and vice versa No striking differences were observed in this series of experiments when they were carried on in mediums without a buffer As the growth of the colon bacillus changed the hydrogen ion concentration of the medium very rapidly (so that if the concentration at the time of inoculation is 8 6, after a few hours of growth it may be only 6 4), it was thought best to repeat the experiments in mediums with buffer mixtures, so that the reaction, after twenty-four hours' growth, would be very nearly the same as before inoculation It was not possible in any of the experiments to demonstrate any appreciable lag when the colon bacillus was transferred from an acid to an alkaline medium, and only a very slight lag when it was transferred from an alkaline to an acid These experiments do not exclude any effect that the alkaline mode of treatment may have on the formation of bactericidal substances by the mucous membrane

A special effort has been made to determine whether there was any action of hexamethylenamin at the level of the pelvis It is well known that urine from the bladder, if acid, can be rendered sterile by hexamethylenamin According to the experiment of Shohl and Deming,[2] with a hydrogen ion concentration of 5 2 and a total urinary output of 1,500 c c, a dosage of 3 gm of hexamethylenamin will produce formaldehyd in two hours sufficient to kill 90 per cent of all bacteria

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* From the Section on Pediatrics Mayo Clinic

* Read before the Section on Diseases of Children at the Seventy-Third Annual Session of the American Medical Association St. Louis May 1922

1 Browning C H The Diagnosis and Treatment of Nonvenereal Pyogenic Infections of the Urinary Tract with Special Reference to Urinary Antiseptics Glasgow M J 97 38-45 (Jan) 1922

2 Shohl A. T and Deming C L Hexamethylenamin Its Quantitative Factors in Therapy J Urology 4 419 (Oct) 1920

They have also shown that the nearer the reaction of the urine approached neutrality, the lower was the concentration of formaldehyd and antibactericidal action With a p_H 6, insufficient formaldehyd was formed even in twenty-four hours to kill all bacteria At neutrality, there was no production of formaldehyd In infants, the urine rarely remains in the bladder more than from one to one and one-half hours Even if conditions of acidity in the urine of the bladder are ideal and the hexamethylenamin is sufficient, it would be almost impossible to obtain a bactericidal concentration of formaldehyd because of the lack of time

I recently observed a child who had suffered from pyelitis for three years Ureteral catheterization, some months before, showed bilateral infection of the renal pelvis The urine, on first examination, contained innumerable bacilli, but only a few pus cells The child was put to bed, fluid was forced, and 15 grains of hexamethylenamin and 20 grains of sodium acid phosphate were given every six hours In spite of the sodium acid phosphate, the hydrogen ion concentration of the urine remained about 7, varying from 6 8 to 7 4 At the end of eight days, the urine of the bladder was sterile, but numerous bacteria could be seen in the centrifuged specimen A few days later, the child underwent cystoscopy, and urine was obtained from both ureters and from the bladder, and cultures were taken All the cultures were sterile, and the hydrogen ion concentration was 7 4 What had caused the disappearance of the infection? The urine was alkaline, the formaldehyd could never be in sufficient concentration to be bactericidal There is, of course, a possibility that disappearance of infection was merely a coincidence, or due to rest in bed and forcing of fluids, but the three year history is rather against such an assumption It raises the question of a possible action of hexamethylenamin in alkaline mediums A particularly interesting experiment was made to determine the condition of the urine from the ureters, when the urine from the bladder contained sufficient formaldehyd to sterilize it, and to determine the length of time required to render the urine from the ureters sterile Thus far fourteen cases have been studied, but an appropriate, deciding case has not been found

Experiments with the use of phenyl salicylate (salol) have been somewhat limited, because indications did not warrant further investigation They consisted of two cases of pyelitis in which the dose of phenyl salicylate was increased gradually to a point at which it was unjustifiable to go farther

In the case of one patient suffering from pyelitis, the dose of phenyl salicylate was increased to 5 gm daily, without any effect on the bacteria in the urine With this dose, the urine was not bactericidal, and it turned rapidly dark on standing, indicating the presence of pyrocatechin and hydrochinon In the case of another patient, the dose was increased gradually to 4 gm daily, at which time there was rapid change of the color of the urine, to a dark brown In neither instance was any antiseptic action observed Since these doses are much higher than those usually advised for the treatment of pyelitis, I feel warranted in maintaining that, in the doses usually given, phenyl salicylate has practically no value in rendering the urine sterile by its direct action on bacterial growth

From a review of the literature of pyelitis, particularly of its treatment in infancy, the impression is gained that few observers have found hexamethylenamin of much value In most articles on the subject, alkalization is the treatment of choice in the acute cases However, there is no evidence that alkalization has any direct specific effect, except, possibly, its diuretic action The possible effect of alkalization on the tissues is not considered in this paper, it being the subject of a separate experimental study

SUMMARY

In acute cases of pyelitis, the alkalis are useful, but we have no evidence of any direct specific action Hexamethylenamin has a very definite bactericidal action in the bladder, but whether this applies also to the pelvis of the kidney has not been demonstrated Phenyl salicylate does not have antiseptic properties in the doses given

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UROLOGIC SURGERY IN PEDIATRICS*

HERMAN L KRETSCHMER, M D

Genito Urinary Surgeon Alexian Brothers Hospital Urologist Presbyterian Hospital Consultant in Urology U S Veterans Hospital No 76 Assistant Surgeon Children's Memorial Hospital

CHICAGO

It may be said without fear of contradiction that the urologic study of pediatric cases has not received the consideration that is due so important a subject This is practically an undeveloped province of medicine, and as evidence of this statement, attention may be called to the scant references, both in pediatric and in genito urinary literature In this country, Beer,[1] Hyman,[2] Hinman,[3] Stevens,[4] Thomas and Tanner,[5] and Helmholz and I[6] have made a study of the subject—not a large showing Hence, it appears to me that this province for clinical study has been decidedly neglected, though the problems and possibilities undoubtedly are many and of great variety But to achieve gratifying results, the closest cooperation between the pediatrician, general practitioner and genito-urinary surgeon is necessary This alliance effected, I am ready to admit, without being unduly enthusiastic, that pediatric urology will be the open sesame for extensive work for both pediatricians and urologists

On reflection, it appears that there is no really sound reason for this backwardness of pediatric urology A perusal of the table of diagnoses (Table 2) shows that the lesions of the genito-urinary tract in children differ in no way from the various pathologic conditions found in adults, except as regards those incident to age, such as carcinoma Then what are the reasons for this failure to keep abreast of the advances made in urology in adults? The reasons are

1 The general practitioners and pediatricians who attend infants and children have not availed themselves of the advantages and opportunities of urologic studies because of the difficulty in eliciting symptoms in these patients, and probably because they are not familiar with the possibilities inherent in this subject

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* Read before the Section on Diseases of Children at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Beer Am J Surg March 1911

2 Hyman A Urinary Tract Surgery Am J Dis Child 15 116 (Feb) 1918

3 Hinman F Cystoscopic Study of Urologic Conditions in Children Am J Dis Child 17 305 (May) 1919

4 Stevens W E Diagnosis and Treatment in Pathologic Conditions of Urinary Tract in Children Modern Methods J A M A 77 1081 (Oct 1) 1921

5 Thomas G J and Tanner C O Minnesota Med 5 147 (March) 1922

6 Helmholz H F and Kretschmer H L Treatment of Pyelitis in Infancy and Childhood J A M A 75 1303 (Nov 13) 1920

2 The genito-urinary surgeon is not the first one called to see these cases, and, furthermore, there are certain limitations in his armamentarium With the recent advances in the art and science of instrument making, instruments of small caliber have been perfected, so that these little patients can be subjected to cystoscopic examination and ureteral catheterization almost as easily as can the adult Not only can these patients be examined with special instruments of precision, but the same diagnostic measures that are employed in the adult can be and should be used, namely, roentgen ray, pyelography, functional tests, blood chemistry, and chemical and bacteriologic studies of the urine as obtained by ureteral catheterization

This article is based on a personal experience in a series of sixty cases

INDICATIONS

The indications for urologic study in children are the same as for adults, but their verification is difficult, since many children cannot accurately describe their symptoms Especially is this evident in the treatment of infants, for one must rely on the statements of the parents or nurse, whose powers of observation are often not very keen, or, in fact, so defective that frequently the chief indication must be based on the results of urinalysis

The presence of pus in the urine (thirty cases) was the most frequent single indication for cystoscopy in the group herewith reported A large number of the

Fig 1—Hydronephrosis and enormous dilatation of ureter catheter forming a loop in the ureter

patients came to the hospital without any very definite complaints In the course of the routine physical examination, pus was found in the urine and for this reason the patients were referred for study

Hematuria as an indication for complete urologic study is very common in adults and quite the reverse in children This is due to the common occurrence of tumors in adults and their rarity in children The presence of macroscopic blood was the reason for cystoscopy in only eighteen cases

In several cases, the patients were examined with the cystoscope because of enuresis, and, while this may not

Fig 2—Large solitary pure cystin stone

always constitute an indication for cystoscopy, it is well to employ the cystoscope in these cases, in order to exclude a possible pathologic condition in the bladder that might be responsible for the enuresis In one case, that of a boy, the cystoscope was employed because of an overdistended bladder, the bladder extending above the umbilicus The patient, who was admitted to the

TABLE 1—AGES

	Number of Cases
7 months	1
8 months	1
11 months	2
1 year	4
2 years	8
3 years	7
4 years	5
5 years	2
6 years	5
7 years	2
8 years	5
9 years	1
10 years	4
11 years	1
12 years	3
13 years	2
14 years	4
Not stated	3

hospital because of overflow incontinence, suffered from a congenital valve formation at the neck of the bladder Two boys were referred because of bed-wetting Cystoscopic examination revealed the presence of stones in the bladder

LIMITATIONS OF CYSTOSCOPY

In boys, for anatomic reasons, cystoscopy and ureteral catheterization cannot be carried out as early as in girls The youngest patient in this series was a girl, aged 7 months at the time of the first examination In this patient, ureteral catheterization and pelvic lavage were carried out As previously mentioned, very small instruments are now available for both cystoscopy and ureteral catheterization

SEX AND AGE

In this series of 60 patients, twenty were boys and forty girls

The youngest child in whom ureteral catheterization was done was a girl, aged 7 months, the youngest boy in whom a plain cystoscopic examination was made was 11 months old The ages are indicated in Table 1

DIAGNOSIS AND SYMPTOMS

In Table 2, the fact is made clear that the various lesions met with in infants and children are not very

TABLE 2—PATHOLOGIC CONDITIONS

	Number of Cases
Pyelitis	28
Pyelonephritis	4
Hydronephrosis	4
Renal tuberculosis	4
Sarcoma of the kidney	2
Nephrolithiasis	1
Acute hemorrhagic nephritis	1
Hydro ureter	1
Ureter stricture	1
Bladder calculus	4
Cystitis	5
Enuresis	2
Angioma	1
Gonorrheal cystitis	1
Trigonitis	1
Diverticulum	1
Polyuria	1
Spina bifida	1
Congenital valve of posterior urethra	1
No diagnosis	3

different from the lesions which occur in the ordinary run of adult urologic cases, with the exception of lesions incident to age, such as malignant tumors of the bladder and prostate and hypertrophy of the prostate In adults, the common malignant kidney tumor is

Fig 3—Three small cystin stones in the bladder

hypernephroma, this tumor rarely, if ever, occurs in childhood On the other hand, sarcoma of the kidney is more frequently seen in children than in adults

The symptoms, analyzed in Table 3, are similar to those which occur in adult cases, taken at random Hematuria, a relatively common symptom in adults, is rather uncommon in children, nevertheless, the presence of blood in the urine either grossly or microscopically was recorded in eighteen cases

PYELOGRAPHY

In the series of cases described, pyelograms were not made in every instance, my attitude in the matter being conservative, that is, only when indicated was this procedure followed While accidents and complications following pyelography are few and far between, it cannot be denied that adults suffer at times rather severe reactions Bearing this in mind, and also the

Fig 4—Extensive calcification in the right kidney in case of bilateral renal tuberculosis

fact that many of the children had been examined cystoscopically under anesthesia, and considering the difficulty of determining just when the pelvis is completely filled, I have been rather reluctant to subject

TABLE 3—ANALYSIS OF SYMPTOMS

	Number of Cases
Fever	32
Pyuria	30
Hematuria	18
Frequency	16
Vomiting	15
Painful urination	11
Incontinence	11
Headache	7
Burning on urination	5
Diarrhea	5
Dribbling	4
Chills	4
Difficult urination	4
Nausea	4
Irritability	3
Passage of sand	3
Retention	2
Urgency	2
Palpable tumor	2
Tenesmus	1
Backache	1
Sweats	1

them to pyelography, unless it was absolutely necessary But it should be emphasized here that pyelography yielded valuable information in a number of instances In a girl, aged 9 months, in whom a provisional diagnosis of chronic colon pyelitis had been made and pelvic lavage instituted, it was soon evident, because of the failure of the patient to respond to this treatment, that something besides a simple pyelitis was present This was substantiated by the pyelogram, which revealed a hydro-ureter and hydronephrosis In another case, the pyelogram revealed a stricture of the ureter, with enormous dilatation of the ureter and kidney pelvis,

the ureter being large enough to allow the catheter to bend, forming a large loop (Fig 1)

It would appear, judging by what has just been stated, that, even in very young patients, pyelography has a definite field of usefulness in selected cases

CYSTOGRAPHY

While cystography has a rather limited field in the urologic study of adults, its field of usefulness is probably still more restricted in pediatrics, and it should be supplemental to, and not substituted for, other procedures The making of cystograms in cases of children has been previously reported [7]

ROENTGEN RAYS

Roentgen-ray examinations should be carried out in all cases, with the realization, however, that there are certain cases of calculus that cannot be demonstrated by roentgen rays One patient, a boy, aged 2, had a large vesical calculus which was not demonstrated by the roentgen ray but was diagnosed by cystoscopy In three cases, the roentgen ray revealed the presence of calculi (Figs 2 and 3), and, in two cases of renal tuberculosis, the presence of extensive areas of calcification (Fig 4)

URETERAL REGURGITATION

Regurgitation of the fluid up the ureter was noted under two different circumstances (1) in normal children with normal urinary organs, free from infection, in whom the bladder was filled with solution for purposes of cystography, and (2) during ureteral catheterization This phenomenon was proved by injecting a

Fig 5 —Bilateral pyelogram in a girl aged 7 months showing enlargement of the renal pelvis

solution of argyrol into the bladder Shortly afterward, the urine, dropping from the ureteral catheter, was colored with argyrol solution Both these occurrences have previously been reported the latter in an article on the treatment of pyelitis in children

BACTERIOLOGY

Bacteriologic records were positive only in thirty-six of the sixty cases Although the number of cases in which bacteria were found is small, it is not without interest that, according to Table 4, the organism which preponderated was the colon bacillus Various writers

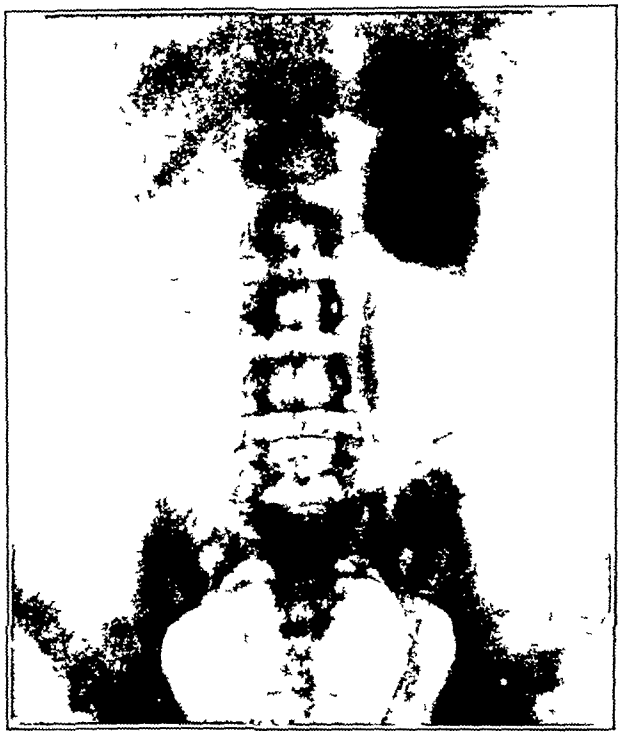

Fig 6 —Hydronephrosis in a girl aged 13

have stated that the colon bacillus is the most frequent invader of the urinary tract in adults My experience in this series of pediatric cases corroborates this opinion

LITHOLAPAXY

Another urologic phase of pediatrics that has received little, if any, consideration in this country is the treatment of stone in the bladder In India and in

TABLE 4—RECORD OF ORGANISMS FOUND

	Number of Cases
Colon bacillus	25
Staphylococcus	5
Tubercle bacillus	4
Paratyphoid bacillus	1
Gonococcus	1
Sterile cultures	7

certain parts of Russia, litholapaxy has been resorted to in the treatment of bladder calculus in children Frever, in England, has reported a series of 140 litholapaxies in children

In two cases in this series, litholapaxy was successfully carried out (Fig 2) Rather large stones were crushed and completely removed, as evidenced by subsequent cystoscopic examinations Chemical examinations of the fragments of both these cases showed the presence of pure cystin [8]

7 Kretschmer H L Cystography Its Value in Surgery of the Bladder Surg Gynec & Obst **23** 709 (Dec) 1916

8 Kretschmer H L Cystinuria and Cystin Stone with a Report of a New Family of Cystinurics Urol & Cutan Rev **20**, 1916

PELVIC LAVAGE IN PYELITIS

A certain number of cases of colon bacillus pyelitis resist all the usual forms of routine treatment, such as administration of alkalis or hexamethylenamin or the use of vaccines, or special diet This group forms a very small number, to be sure, yet the problem of management in cases of relapsing pyelitis which do not respond to treatment is an important one, and one that has not received intensive study

In a paper presented before the urologic section, Dr Helmholz and I[6] reported a small series of cases in which pelvic lavage was carried out with satisfactory results Further experience with pelvic lavage, in cases of pyelitis which have resisted all other forms of treatment, has yielded results that justify this form of treatment when the usual forms of treatment fail to cure these small patients

SUMMARY

1 From a careful study of this series of cases, it is evident that the various pathologic conditions in infancy and childhood are similar to the various urologic lesions found in adults

2 The diagnostic and therapeutic problems are identical

3 There is no sound reason why these little patients should not be given the benefit of modern urologic diagnosis and treatment

4 With a more widespread interest in this subject, more patients will be given the benefit of urologic diagnosis and study

5 No doubt, with the study and the report of increasing series of cases, the entire subject will become more and more stabilized

122 South Michigan Avenue

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS HELMHOLZ AND KRETSCHMER

DR CLIFFORD G GRULEE, Chicago One might get the impression, if he had not listened closely, that there was no benefit to be derived from the administration of alkalis I take it that Dr Helmholz did not have that in view The results of alkali administration in pyelitis, if carried out faithfully, are not to be questioned, and as a consequence I think, if I am not much mistaken, that Dr Helmholz meant to say that his experiments had not yet shown how the alkalis acted Evidently they had no marked bactericidal effect on the colon bacillus As to Dr Kretschmer's paper, I think it represents a general tendency Our tendency in medicine has been to attempt to get something definite on which we can place a finger and say that this means something here and now That is the reason the laboratory findings have been so exaggerated in importance by many because they felt that laboratory tests were something exact and something on which one could depend As a matter of fact, any one who has done any amount of laboratory work knows that laboratory tests are subject to individual interpretation, and therefore they are of no more importance from the standpoint of diagnosis than anything else which is subject to human error In this work we have demonstrated another approach in exact diagnosis, an approach which has not been used to any great extent and one which I feel will be of great value if we are careful in the selection of our cases It is very satisfactory to have a cystoscopic examination or a catheterization of the ureters and to feel that you have reached the bottom of things in that respect Another phase of this work which is not to be disregarded is the question of the treatment of pyelitis Every one has seen cases of pyelitis in which the pus has persisted in the urine in spite of every effort on the part of the physician to overcome the pyelitis Dr Kretschmer does not claim that every case of pyelitis which he treats by his method and which is essentially a neglected case of pyelitis is going to be cured by such treatment But when a case reaches the point at which approach by that method of treatment is impossible, this washing out of the pelvis of the kidney with silver nitrate solution is of the greatest benefit and in some cases has resulted, if not in cure, in betterment of the condition Pyelitis has such a marked tendency to recurrence that cure must be spoken of advisedly But, on the other hand the clearing up of the pus in these cases is one of the things which we are glad to obtain

DR CHARLES SCHOTT, Chicago I think many pediatricians have regarded this work as an adjunct which might help us to come to a conclusion in a case which is more or less puzzling Many men would like to employ this method of diagnosis, but cannot call on somebody to help them out It seems to me that it takes a real expert to do this work A crude operator may do more harm than good so that the ultimate value of the thing might be nullified In hospital work, every method should be used to arrive at a diagnosis, so that at some future time we may say that here in this case cystoscopy is not necessary because we have used it in so many cases experimentally, perhaps

DR W MCKIM MARRIOTT, St Louis Two remedial agents have not been mentioned—calories and cod liver oil There is a type of pyelitis that is secondary to malnutrition and will not be affected by any form of drug therapy unless the nutrition of the child is improved In such cases, if the infant is treated the pyelitis will clear up of itself Dr Helmholz has pointed out many ways in which the commonly used drugs do not work Most of us, however, feel convinced that alkalis are of distinct benefit There are one or two good reasons why one should expect alkalis to effect a favorable influence on pyelitis We know that phagocytic immunity is inhibited in acid solution We know that phagocytosis is one of the defenses of the body in pyelitis We would not expect phagocytosis to be active in the presence of an acid urine, hence the advantage in neutralization of the urine Furthermore, we know that it is not the pus in the urine that is doing harm, but the pus retained in the kidney that causes the symptoms One frequently sees patients with high temperatures with no pus in the urine When the pus appears, the temperature falls We know that pus is more soluble in alkaline than in an acid medium Is it not possible that alkalization of the urine aids in dislodging retained pus? Potassium citrate is a drug frequently used, although there is no good reason for the use of potassium salts Sodium salts are quite as effective, and are free from the danger of potassium Potassium salts are toxic, but they are rapidly eliminated in the urine under normal conditions, in pyelitis, however, retention may occur and definite symptoms of potassium poisoning result Only the sodium salts should be used when it is desired to administer alkali

DR F C RODDA, Minneapolis We know little about the etiology of pyelitis, very little about the pathology, and less about the treatment Dr Helmholz' attempt to put the treatment on a scientific basis is to be commended The diagnosis of pyelitis is often based on finding pus in the urine and yet Dr Marriott has called attention to the fact that there may be bacterial invasion of the urinary tract with no pus On the other hand, after the disappearance of the constitutional symptoms, pus may continue for a long time We must have some criteria to tell when a patient is cured The presence or absence of organisms and the time when these disappear, is more important than the finding of pus As regards the alkaline treatment, it is often hard to say whether we are getting any result from the drug or not Often sodium citrate must be given up to 150 or 200 grains a day to get the urine alkaline, and yet we see physicians administering 5 or 10 grains twice a day There seems to be a fear of administering hexamethylenamin in reasonable doses We have given it up to 45 or 50 grains a day for a short time, carefully controlling the urine, of course, and watching for any signs of irritation

DR LOUIS C SCHROEDER, New York I do not believe that any man can do this urologic work I have seen barium used in a child with dilated ureters, the result of a congenital deformity, and the outcome was anything but satisfactory We know that in adults, some fatal results have attended the use of different substances employed in urography There is a distinct danger attached to it, and the impression should not go out that one can use any medium at all I am interested to know what medium Dr Kretschmer has used, for some mediums are toxic and should be avoided

DR FRANK C NEFF, Kansas City, Mo I would like to suggest that the use of phenyl salicylate might have some effect in the type of pyelitis due to pyocyaneus infections I saw such a case that was definitely cured by phenyl salicylate when the usual remedies failed A possible cause of persistent pyuria is a diverticulum of the bladder or a congenital anomaly in the posterior urethra which interferes with complete drainage of an already infected urinary tract Urologic examination will reveal such a condition and therefore should be resorted to much more frequently than pediatricians have been accustomed to doing

DR JAMES A GARDNER Buffalo Urology is one of the newer departures in medicine, and it is still difficult to persuade physicians to send adults to the urologists and even more difficult to persuade them to send children The impression prevails that instruments are made solely for use on adults In recent years the instrument makers have perfected the cystoscope so that we now have instruments that can be used with equal facility on children With the advances made in urology it has been demonstrated that children suffer from the same conditions as adults—diverticula, hydronephroses and pyelitis—and if an early diagnosis is made, infections, while they are still slight, are as easily cared for as in adult cases The doctor spoke of deaths occurring from making pyelograms I feel that there is really a small risk With sodium bromid solution we have reduced it to a minimum, and because of the large number of children who can be saved if a diagnosis is made, we are warranted in taking the risk

DR H F HELMHOLZ, Rochester, Minn Blocking of the ureters by acute inflammation is another condition that might be cured by the passage of a ureteral catheter We must keep this mode of treatment in mind because the acute case with obstruction is the one in which the patient is likely to die of the infection, and a certain number of these patients can be saved by restoring the passage in the ureter I purposely stated in my paper that I was discussing only the direct effect of drugs on bacteria and not on the organism The most important drug in the treatment of pyelitis which has not so far been mentioned is water All other drugs are merely an addition to water In a recent discussion in Washington Dr Hugh H Young, in whose laboratory a great deal of work has been done on drug therapy in kidney lesions, emphasized over and over again that water in large amounts is the most efficient drug in the clearing up of infections of the urinary tract, and I heartily agree with him

DR HERMAN L KRETSCHMER, Chicago It was not my object to emphasize any one phase of this subject but to present the experiences in this series of sixty urologic cases in infants and children, calling particular attention to the various diagnostic problems which are essentially the same as in adults problems that should be settled before treatment is instituted Much of the discussion has centered around the treatment of pyelitis by pelvic lavage I did not want to present this as a specific but the fact remains that in some of these cases we were able to effect a cure when all other forms of therapy had failed Pelvic lavage will not cure all cases and, when it fails, the question of a mistaken diagnosis immediately comes up Dr Helmholz undoubtedly will remember one of his cases in which pelvic lavage failed to cure the patient Further study demonstrated the presence of a hydronephrosis, so that when pelvic lavage fails to bring about the desired result, one should search for the presence of other lesions that might keep up a pyelitis, such as an early renal tuberculosis, stone or hydronephrosis The presence of some of these lesions, perhaps often unrecognized, may account for the failure of medical treatment I agree, most fully, with Dr Schott's statement about the necessity of making correct diagnoses in these cases—a point also emphasized by Dr Grulee I agree also with Dr Helmholz, namely, that we do not give large enough doses of alkalis and hexamethylenamin in treating cases of pyelitis Dr Marriott is perfectly correct when he says that we should treat the patient as a whole, a fact that I have repeatedly advocated in treating pyelitis in adults The point brought out by Dr Schroeder regarding deaths after pyelography is a very important one, and I stated in my paper that we did not make pyelograms in every case, reserving its use to well selected cases I do not believe that it makes much difference what medium is used We have used both sodium bromid and thorium The reaction, I think, is due to overdistending the infected kidney pelvis and carrying the infection into the substance of the kidney I do not believe that the reaction is due to the chemical although some chemicals undoubtedly are more irritating than others Dr Neff's point about careful urologic study is well taken, and I agree fully with him

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SYPHILIS OF THE LUNG*

ALFRED FRIEDLANDER, M D
AND
R J ERICKSON, M D
CINCINNATI

The voluminous literature on syphilis of the lung is characterized by contradictions There is no unanimity of opinion as to frequency, type, anatomic picture or course The essential features of diagnosis are variously given It may thus well be that many cases of pulmonary syphilis are overlooked—that many cases of so-called lung syphilis are improperly diagnosed

The development of a finer roentgen-ray technic has made it necessary to revise our preconceived notions of pulmonary syphilis Indeed, there are not wanting roentgenologists of repute who feel that the roentgenologic chapter of lung syphilis is yet to be written

But in summing up the mass of evidence as presented in the literature, certain outstanding conclusions seem to be justifiable

Speaking in terms of visceral syphilis, the lungs must be regarded as organs which are relatively resistant In saying this, it is to be remembered that reference is had here to the lesions of acquired syphilis The "white pneumonia" of congenital syphilis described long ago by Virchow, Widal and others is excluded from the discussion Lung syphilis, as compared with other tertiary manifestations of the disease, is a comparatively rare disease According to Osler,[1] in 2,800 necropsies at the Johns Hopkins Hospital there were twelve cases of syphilis of the lung, and eight of these were of the congenital type—an incidence of the acquired type of 0 14 per cent In 1,200 cases referred to the Jefferson Chest Hospital, Funk found pulmonary syphilis in four (0 3 per cent) In a series of 2 880 necropsies, 314 of which showed lesions due to syphilis, Symmers found evidence of pulmonary syphilis in twelve—an incidence of 0 24 per cent

* From the Department of Internal Medicine University of Cincinnati College of Medicine
* Read before the Section on Practice of Medicine at the Seventy Third Annual Session of the American Medical Association St. Louis, May 1922
1 Osler (quoted by Land)

Such figures give convincing testimony as to the rarity of the classical forms of pulmonary syphilis. On the other hand, Watkins reports that of 6,500 roentgenologic examinations of the chest, the diagnosis of pulmonary syphilis was made in 172 cases (2.6 per cent.). But it is to be pointed out that the diagnosis of pulmonary syphilis by means of chest plates alone

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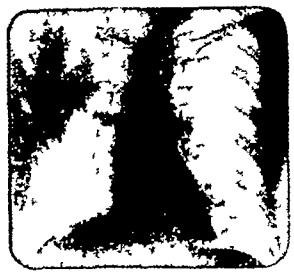

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Fig. 1 (Case 1).—Condition, May 31, 1920. Density of right middle lobe and upper part of right lower lobe with marked fibrous changes at the right base; shadow indicative of gumma with fibrosis; definite knobby deposits in left hilum with peribronchial thickening over middle and lower portions of left lung.

Fig. 2 (Case 1).—Condition, Aug. 27, 1920. Definite decrease in density in right middle lobe and upper part of right lower lobe; marked fibrosis over entire right side; left lung unchanged.

is not justified by the present state of our knowledge. Therefore the figures of Watkins as to the incidence of pulmonary syphilis, much higher than those of all the other series, must be taken with reserve. Attention should be called to the fact that French and Italian writers have described pulmonary lesions due to syphilis other than the classic type. Balzer has recently reported cases of syphilitic bronchitis with demonstration of spirochetes in the sputum. Such forms have not been described in America as yet. But the proneness of syphilis to attack the mucous membranes of the mouth, nasopharynx and larynx makes the assumption of syphilitic bronchitis at least plausible. The rapid improvement of these cases on antisyphilitic treatment alone also adds weight to the presumptive diagnosis. It may be that such lesions might occur in the secondary stage of syphilis as well. It would appear worth while to devote further study to this phase of the question.

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Fig. 3 (Case 1).—Condition, Nov. 4, 1920. Density on both sides has decreased to a considerable extent; all evidence of gumma has disappeared.

Fig. 4 (Case 1).—Condition, Nov. 20, 1920. Some peribronchial thickening and some fibrosis in both lung fields; no evidence of pulmonary tuberculosis.

In a careful analysis of 120 cases taken from the literature, Karschner found pulmonary syphilis more common in males than in females, the ratio being 2 : 1, though the condition seemed more fatal to women than to men. The average time of appearance of pulmonary syphilis after the initial lesion was eleven years.

Excluding the congenital white pneumonia from discussion again, the commoner anatomic lesions are the gumma and the fibroid indurative processes. Secondarily, syphilitic bronchiectasis is not infrequently found, more rarely ulcerative and gangrenous lesions.

Gummas may be single or multiple, and may vary greatly in size. The softening of a gumma and the erosion into a bronchus may produce cavities which on superficial examination resemble the picture of pulmonary tuberculosis. Gummas are found more often about the hilum and in the lower lobes than elsewhere.

The studies of Warthin have shown that the gumma is not as common in pulmonary syphilis as is the low grade inflammatory process with subsequent fibroid induration. These indurative processes begin at the hilum and extend outward along the bronchi and blood vessels. Large areas of dense fibroid induration may thus be formed, and many cases of pulmonary fibrosis with bronchiectasis may have their origin in this way.

In addition to these commoner forms, Landis and Lewis have described cases in which the lesion consists of an area of consolidation and catarrh around the lung root or extending to the apexes. It has generally been held that the apexes of the lung are not invaded by the syphilitic process, but recent evidence, as

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Fig. 5 (Case 2).—Condition, Sept. 18, 1920. Marked density over upper and middle right lobe with fibrosis in lower right lobe; increase in density in the left hilum region; moderate peribronchial thickening of the left lung field; no evidence of gumma.

Fig. 6 (Case 2).—Condition, Dec. 5, 1920. Density over the entire right lung area; fibrosis of left lung field as before.

gathered by the French school, has shown that the lung apexes do not escape the syphilitic process.

There are no characteristic symptoms of pulmonary syphilis. Cough, with or without hemoptysis, dyspnea, night sweats, loss of weight and moderate fever may all be present. Janeway first called attention to the frequency of fever, night sweats and loss of weight in pulmonary syphilis, and it was he who noted the fact that the pain in the right side of the chest in these cases is not due to pleurisy but to syphilitic perihepatitis.

When syphilitic mediastinitis complicates the picture of pulmonary syphilis, severe substernal pain with dyspnea, irritative cough and hoarseness, and evidence of circulatory obstruction are likely to be present.

There are no physical signs distinctive of pulmonary syphilis. The signs present are those to be expected with consolidation, fibrosis, bronchitis or bronchiectasis.

It is thus apparent that the diagnosis of pulmonary syphilis presents distinct difficulties.

With the symptoms and physical signs of tuberculosis, with repeated sputum examinations persistently negative for tubercle bacillus, with a positive Wassermann reaction, the diagnosis may at least be suspected. Roentgen-ray examination offers valuable confirmative

evidence, because the chest shadows in pulmonary syphilis differ in some degree from those of tuberculosis In some cases, the chest shadows may be said to be almost distinctive of syphilis Once the suspicion of pulmonary syphilis is entertained, intensive antisyphilitic treatment is called for And if, under such treatment, marked improvement in the general condition and decided clearing of the chest shadows should occur, the diagnosis may be considered established But there are several points that call for special emphasis in this connection In the first place, syphilis and tuberculosis may coexist in the same lung In such cases, arrest of the syphilitic process may occur under antisyphilitic treatment, the tuberculosis remaining unchecked In the next place, certain cases of pulmonary syphilis do not respond to antisyphilitic treatment, and, finally, some cases of pulmonary syphilis clear without any antisyphilitic treatment

It is the purpose of this paper to record the results of a study of all the patients admitted to the Cincinnati Tuberculosis Sanatorium (a municipal institution) during a period of two years All grades of tuberculosis are, of course, admitted to the institution About 65 per cent of all the cases belong to the far advanced group of the National Tuberculosis Association classi-

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Fig 7 (Case 2) —Condition Feb 9 1921 Upper and middle right lung clearing to clear right lower clearer than before left lung field clear
Fig 8 (Case 2) —Condition March 27 1921 Density over entire right side greatly diminished left lung field normal heart shows enlargement of all diameters of the aorta and also of the transverse diameters of the heart with aortic configuration

fication During the years 1920-1921 there were 791 adult patients admitted to the sanatorium Of these, 609 (77 per cent) were white, and 182 (23 per cent) were colored Though the colored patients constituted but 23 per cent of the total hospital census, 33 per

ANALYSIS OF WASSERMANN TESTS BY RACE

	Per Cent
Colored patients in hospital	23
Deaths among colored patients	33
Colored patients dead with positive Wassermann test	27
Colored patients living with positive Wassermann test	29
White patients in hospital	77
Deaths among white patients	67
White patients dead with positive Wassermann test	11
White patients living with positive Wassermann test	11

cent of all the deaths during the two year period occurred among the colored patients Analysis of the Wassermann tests, taken as a routine on all patients on admission to the sanatorium, showed that 13 per cent of all patients living had positive blood Wassermann tests, 17 per cent of all patients dying had had positive Wassermann tests Figures of the Wassermann tests are analyzed by race in the accompanying tabulation The higher death rate and the higher positive Wassermann test in the colored race are, of course, in conformity with general experience In this series of 791 cases, the diagnosis of pulmonary syphilis was made in four (0 5 per cent) Curiously enough, all four cases occurred in white patients, three men and one woman The diagnosis of pulmonary syphilis was not made in any of the 182 colored patients

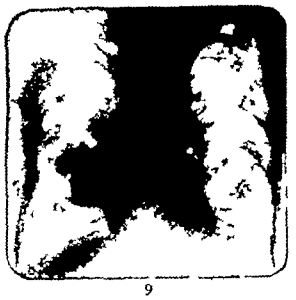

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Fig 9 (Case 3) —Condition May 3 1920 Marked fibrosis of the entire right side with the exception of the extreme base Knobby deposits at the left hilum peribronchial thickening of the entire left lung field typical syphilitic aortic shadow
Fig 10 (Case 3) —Condition Nov 14 1921 Density on right side has decreased very markedly Left lung also much clearer than it was some fibrosis still evident on both sides

The woman with pulmonary syphilis died, she had a combination of pulmonary tuberculosis and syphilis The three men recovered, two under intensive antisyphilitic treatment, the third without such treatment

In addition to these four cases two other cases of pulmonary syphilis from the wards of the Cincinnati General Hospital are reported One of these occurred in the service of Dr M A Brown, the other in my own

REPORT OF CASES

CASE 1—B K, a white man, aged 42, presented physical signs on admission confined to the upper part of the right lung The sputum was persistently negative The Wassermann test was positive on admission, May 10, 1920, and also in July August and November It was negative in January, 1921 Antisyphilitic treatment was begun shortly after admission in May 1920 Twenty-four doses of neoarsphenamin were administered in the course of ten months The patient is in excellent condition at present

CASE 2—C M, a white man aged 58, admitted to the sanatorium Sept 11, 1920 presented physical signs rather atypical for tuberculosis The sputum was repeatedly negative for tubercle bacilli Complement fixation for tubercle bacilli was positive The Wassermann test was positive on admission The first dose of neo arsphenamin was given, November 30 Between this date and Jan 5 1921 the patient was given five doses of neo arsphenamin The Wassermann test was negative in September 1921 During the administration of the drug, definite cavity signs appeared in the upper right lobe The temperature was irregular, varying from 97 to 102 F

Fig 11 (Case 4) —Condition June 14 1920 Bronchostenosis with collapse of entire left lung indicative of syphilis moderate peribronchial thickening on the right side

CASE 3—J S, a white man, aged 62, presented physical signs which were not those of advanced tuberculosis on admission April 19, 1920, but the first roentgenograms taken, May 5 revealed very marked densities in the right lung field especially On admission the sputum showed tubercle bacilli, but repeated examinations thereafter were persistently negative and have remained so On admission, the Wassermann

test was positive The patient was put on the ordinary sanatorium regimen No antisyphilitic treatment was given

CASE 4—N B, a white woman, aged 53, apparently presented the coexistence of advanced pulmonary tuberculosis and syphilis The sputum was constantly positive, as also was the Wassermann test The patient was given antisyphilitic treatment in addition to the regulation sanatorium regimen She never showed any improvement, and the roentgenogram taken some time before death shows the peculiar involvement Unfortunately, no necropsy could be obtained

CASE 5—J R, a colored man, aged 49, was admitted to the Cincinnati General Hospital, June 29, 1918, with the diagnosis of cardiac hypertrophy and dilatation aortic insufficiency, and syphilitic aortitis The chest examination gave

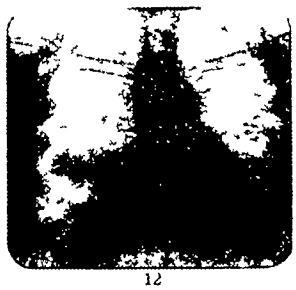

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Fig 12 (Case 5)—Condition July 5 1918 Gumma of right middle lobe extending outward from hilum area with marked peribronchial thickening and fibrosis some knobby deposits in left hilum area typical syphilitic aortic shadow, enlargement in all diameters of the heart aortic configuration

Fig 13 (Case 5)—Condition, Aug 8 1918 Density over entire right side, shadow of gumma still present the density on the right side is caused by thickening of bronchus with resulting collapse of the lung

evidence of consolidation on the right side The Wassermann test was positive Despite rest, cardiac stimulation and vigorous antisyphilitic treatment the patient continued to grow worse and died seven weeks after admission Roentgenograms were taken shortly after admission and shortly before death

CASE 6—J B, a colored man, aged 44, was admitted to the medical service at the Cincinnati General Hospital, March 4, 1922, with the diagnosis of aortic insufficiency, mitral insufficiency, cardiac hypertrophy and dilatation, and syphilitic aortitis In addition to the physical signs dependent on his cardiac condition, this patient showed areas of consolidation (on physical examination) in the right middle and left lower lobes The Wassermann test was positive The first roentgenograms taken confirmed the suspicion of pulmonary syphilis In the last two months this patient has had ten injections of neo-arsphenamin in addition to treatment for the cardiac condition At present the patient's general condition is improved, though during his stay in the hospital a right hydrothorax developed But repeated roentgen-ray examinations have revealed that there has been no change in the chest condition as yet

4 West Seventh Street—Seventh and Race Streets

ABSTRACT OF DISCUSSION

DR HARLOW BROOKS, New York Dr Friedlander has called attention to a condition which is rather more frequent than most of us realize I never realized this until I became pathologist in a service consisting of tuberculous cases Statistics do not give a good rating of this, because it is only when one gets 100 per cent of necropsies that one can be reasonably sure of getting all cases Of course, most cases usually occur in the tuberculous wards, not in the acute ones but particularly among those cases which are termed incipient Dr Friedlander put special stress on the cases of bronchitis One should bear that in mind, and when one has a chronic persistent case of bronchitis, try the therapeutic test, and, of course the Wassermann test We noted the frequent association of cardiovascular lesions with pulmonary lesions When we found cardiovascular involvement, we looked, but frequently in vain, for pulmonary involvement Sometimes we found it only at the necropsy Only when a patient had been in the ward for some time and had been found negative, as far as tuberculosis is concerned, were our suspicions aroused It takes a hardy diagnostician to make a diagnosis of syphilis of the lung on the first examination, although characteristic fluoroscopic and roentgen-ray pictures are shown The fluoroscope has been of great benefit to us, and in fluoroscopic work on the lungs one should note how frequently the mediastinal nodes are involved in these cases, particularly about the hilum Unresolved or delayed resolution in pneumonia is more often of syphilitic origin than we think That is what excuses the treatment of delayed resolution by the iodids We found that many of these delayed resolutions in pneumonia were specific and cleared up under the iodids The greatest difficulty has been in the differentiation between neoplasms and syphilis of the lung Usually considerable time must be given before one can do this, and one must resort to the therapeutic test

DR KENNON DUNHAM Cincinnati Dr Friedlander has shown cases with abnormal densities on the roentgenogram and with a definite Wassermann reaction The patients were treated for syphilis and recovered, others of the same type treated for syphilis did not recover, others of virtually the same type recovered without treatment Until we know the pathologic picture of syphilis of the lung, we are going to be misled Almost every clinician finds these changes, and many of them clear up Some of the most brilliant cures are of this type In cases showing mucous patches in the throat, localized rales will be found over the chest, but it seems to me that unless one can find the spirochete in that lung, it may lead one to false conclusions I am not criticizing Dr Friedlander, but I do not wish to convey the impression that the story of syphilis of the lung is closed by this study

DR W S THAYER, Baltimore It is exceedingly difficult clinically to recognize syphilis of the lung positively intra vitam and very rare to find it postmortem when it has been recognized intra vitam Our experience has been like that of Dr Friedlander, a certain number of instances showing roentgen ray evidences of induration about the hilum of the lung associated with signs suggesting syphilis, clearing

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Fig 14 (Case 6)—Condition in March 1922 Marked fibrosis of right middle lobe moderate fibrosis of upper part of left lower lobe some fibrosis at right base heart configuration cardiac hypertrophy and dilatation double mitral and aortic configuration increase in all diameters of aorta

Fig 15 (Case 6)—Condition in May, 1922 Only slight decrease in density of right middle lobe increase in density at right base fluid level left side unchanged

up under antisyphilitic treatment Other instances—in our experience rather commoner—have been instances of syphilis of the bronchial tree or trachea with ulceration and stenotic changes An example of what we meet clinically was a woman who came to the outpatient department complaining of cough and fever She showed large serpiginous ulcers on the arms and abdomen and signs of infiltration on the upper part of the right lobe and a rather scanty roentgen-ray shadow starting from the same area, the ulcers healed immediately under antisyphilitic treatment, and the shadow almost completely cleared up You cannot prove that the changes in that lung may not have been the remains of an influenzal bronchopneumonia, but they may have been syphilitic

OBSERVATIONS ON FRACTURES OF THE MANDIBLE*

ROBERT H IVY, M D, D D S
PHILADELPHIA

Probably no fracture in the body is less understood or, as a general rule, worse treated than fracture of the mandible The usual information given in surgical textbooks as to the practical management of these cases is vague, and consequently the surgeon, when confronted with a fractured lower jaw, is usually at a loss what to do He either attempts to treat it with a head bandage, or passes the responsibility to a dentist with the request that a splint be made Occasionally, and worst of all, he tries direct fixation of the fragments by plating or wiring For these reasons, among others, it has been considered timely to report some observations made in thirty-one consecutive cases of fracture of the mandible recently under our care at the University of Pennsylvania

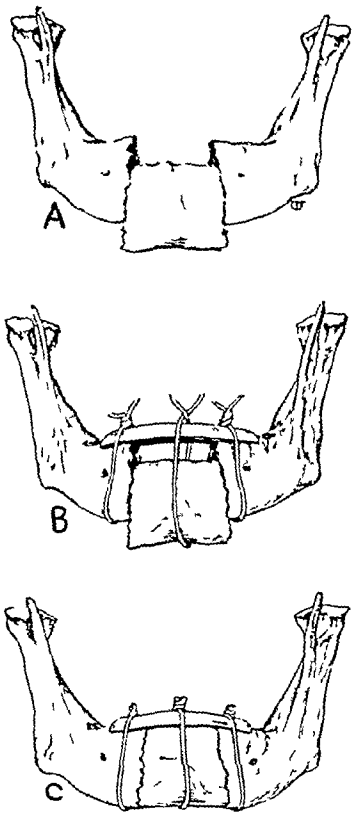


Fig 1.—*A*, Bilateral fracture in edentulous mandible *B*, circumferential wires and splint *C* circumferential wires tightened bringing symphysis fragment up into position

Of thirty-one cases, twenty-nine were in men and two in women

LOCATION

The location of the fracture in eleven of the thirty-one cases, 35 5 per cent, was bilateral One case presented two fractures on the same side Thus, there were nineteen cases of single fracture and twelve of double, making a total of forty-three fractures in all The location was mental foramen region, sixteen, or 37 2 per cent , angle, eleven, or 25 6 per cent , incisor region, eight, or 18 6 per cent , molar region, six, or 14 per cent , neck of condyle, two, or 4 6 per cent

In the majority of bilateral cases the fracture on one side is at or near the mental foramen, and on the other at or near the angle The point of impact of the force producing the fractures is often midway between the two fractures For example, if a blow is received to the right of the chin, there is quite likely to be one fracture at the right angle and the other to the left of the chin Thus, fracture by indirect violence occurs just as frequently as by direct violence In every case of fracture at or near the mental foramen, one should always look for another at the opposite angle It will be found in about 60 per cent of the cases The more marked symptoms of the fracture near the mental foramen may cause the fracture at the opposite angle to be overlooked It is surprising how often these injuries are undiagnosed

RELATION OF TEETH TO THE FRACTURE

In this series, thirty-two fractures were in the vicinity of teeth In only four of these were teeth in the line of fracture removed immediately It was necessary sooner or later to remove such teeth in 50 per cent of the cases These teeth frequently are of great temporary value in maintaining reduction of fragments or as points of attachment for wires This consideration, on the one hand, must be carefully weighed against the possibility of infection, on the other

EXTERNAL DRAINAGE AND SEQUESTRUM FORMATION

Of thirty-one cases, seven, or 22 5 per cent, required external drainage on account of suppuration The same number developed sequestrums requiring removal either intra-orally or extra-orally

FIXATION OF FRACTURE

There is nothing original in the methods of treatment employed in this series We have adapted well established methods as seemed best for the individual case

Of thirty-one cases, in twenty-seven, or 87 1 per cent, fixation was secured by wiring the upper and lower teeth together

One case, at the symphysis with practically no displacement, was treated by a simple metal cap splint

In one edentulous case, fixation was secured by direct plating of bone fragments through external incision

Two edentulous cases were treated by the vulcanite saddle splint combined with circumferential wiring of the bone

Gilmer,[1] some years ago, pointed out the value of wiring the lower to the upper teeth in fixation of fractures of the mandible The main object of employing any wiring method is avoidance of the difficulties and discomfort of impression taking and the delay in preparing interdental splints from these impressions Other advantages of wiring are that there is no thickness of metal between the upper and the lower teeth, and the latter are not covered so that the state of the occlusion is under direct observation at all times, if, during the course of treatment, it becomes necessary to remove a tooth, this can be done with less disturbance when the fracture is fixed with wiring than if a splint be cemented to the teeth Our records show that in the vast majority of fractures of the mandible occurring in civil life it is unnecessary to resort to impressions and interdental splints We employ a modification of Dr Gilmer's valuable prin-

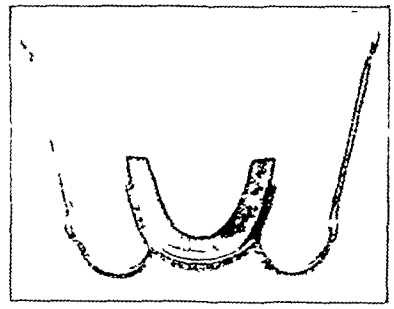


Fig 2.—Lower tray with extra-oral wires

* Read before the Section on Stomatology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Gilmer T L Arch Dentistry September 1887

ciple which permits, during the course of treatment, a ready opening of the mouth for replacement of a broken wire or for other reasons without disturbing the main attaching wires

The wire employed is either 22 gage copper wire or 24 gage brass wire In preparation of the wire to be attached to the teeth, a 6 inch length is folded around a smooth

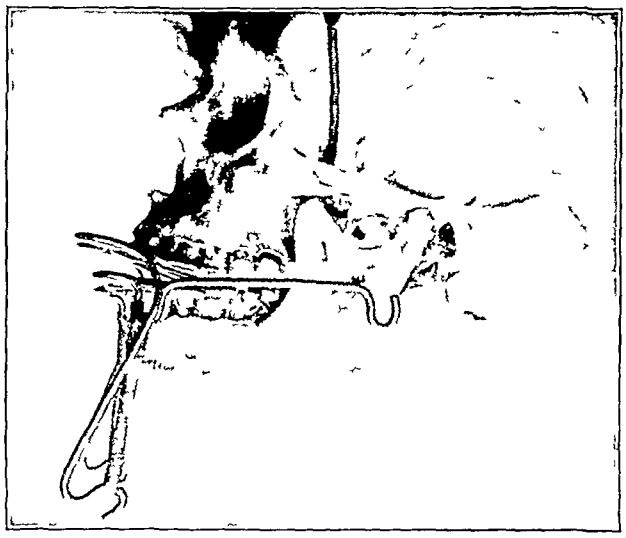


Fig 3 —Lateral view of trismus appliance mounted on skull

instrument, and a small loop or eyelet made at the middle of the strand The teeth selected to be wired are usually the premolars on each side and the central incisors If these teeth are absent or unsuitable for use as attachments other teeth are selected Both ends of the eyelet wire are passed through the interproximal space between two teeth, from the buccal side These ends are then brought back to the buccal side by passing each around one of the teeth and twisted together so that the wires will fit snugly around the teeth with the eyelet projecting from the interproximal space The ends of the wire are cut off short and bent over in order not to irritate the lip or cheek A similar eyelet is fitted to corresponding teeth of the opposing jaw and to other corresponding upper and lower teeth in other parts of the mouth Then the upper and lower eyelets at each point are connected by passage through them of a third or tie wire, the teeth are brought up into occlusion by this means and the tie wire ends twisted together, cut off short and turned in Modifications necessitated by conditions encountered in individual cases have been pointed out in the paper referred to[2]

EDENTULOUS CASES

In recent fractures the only possible indication for direct wiring or plating of the bone fragments through external incision is in an edentulous case in which there is no break in the mucous membrane and consequently the oral secretions do not have access to the fracture In as small a bone as the mandible, it is difficult to secure firm fixation by this method

CIRCUMFERENTIAL WIRING

A much better plan in edentulous cases is circumferential wiring of the bone, originally employed by G V Black[3] A vulcanite splint is first made like a saddle, to cover the lower ridge on each side of the fracture Or, if the patient has a full lower vulcanite denture, this may serve the purpose of a splint A small incision is made through the skin at the lower border of one of the fragments, and a small curved antrum trocar and cannula are passed up through this incision close to the bone on the lingual side, until the mucous membrane of the mouth is pierced. The trocar is then removed, and one end of a 16 or 18 gage silver wire is threaded through the cannula from below The cannula is withdrawn and, by means of the trocar, is passed downward from the mouth close to the bone, this time on the labial side, to emerge at the original skin opening The other end of the silver wire is then passed up through the cannula, and the cannula is withdrawn It is thus seen that the wire passes around the bone The ends of the wire are now twisted over the vulcanite splint or denture so that the bone fragment is drawn up snugly in contact with the splint Another wire is similarly passed around the other fragment and twisted over the splint The circumferential wire is well tolerated, and may be maintained for several weeks, the skin incision frequently closing without suppuration This method is particularly useful in drawing up and maintaining a central edentulous fragment in a case of double fracture (Fig 1)

TIME REQUIRED FOR UNION

Textbooks state that fractures of the mandible unite in from three to five weeks Our figures indicate that this time is considerably overestimated In this series the average time required from the date of injury to the completion of union was forty-eight days, the longest being 109 days and the shortest twenty-one days

The average number of days that fixation was maintained was forty The average time elapsing from the date of injury to the date of fixation was eight days, the longest being seventy-two days

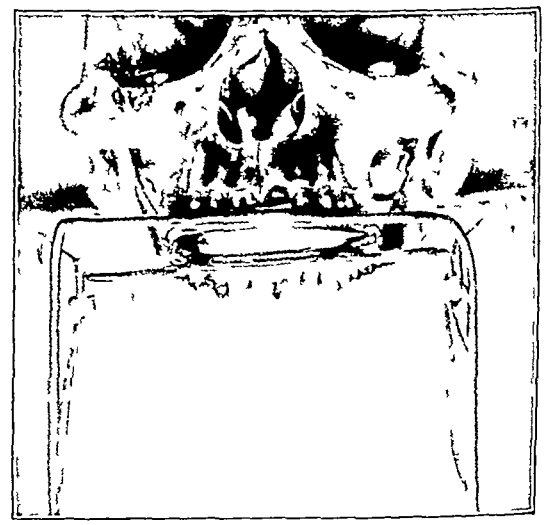


Fig 4 —Front view of appliance

It is difficult to prove by figures that early fixation will shorten treatment, because so many other factors must be considered, such as the amount of original displacement, injury to teeth, and infection The same applies also to relative time of union as between single and double fractures In our series the average time for union after fixation for single fractures was thirty-seven days, and for double fractures 43 3 days

2 Ivy R H Practical Method of Fixation in Fractures of the Mandible Surg Gynec & Obst 34 670 (May) 1922
3 Blair V P Surgery and Diseases of the Mouth and Jaws St Louis C V Mosby Company 1918

RESULTS OF TREATMENT

Results were satisfactory in all cases in this series That is, firm union was obtained with restoration of the original occlusion of the teeth When teeth were lost as the result of the injury or previously absent, the patients were discharged with the jaws in such a condition that artificial dentures could be satisfactorily applied

TRISMUS

Trismus, or temporary limitation of the opening of the mouth, is a frequent complication of fractures of the mandible owing to muscular contracture and infiltration with inflammatory exudate This limitation will usually disappear in the course of time, following ordinary exercise, but it can be overcome much more rapidly by the use of a dilator which we have had made This appliance is universal, i e, it does not have to be made especially for the individual case, it is easily fitted in the mouth by the patient or some one in the house with him, and it is practically as stable as an apparatus that has been made from dental impressions of the individual The construction is extremely simple, the two parts being flat metal trays passing between the occlusal surfaces of the upper and lower teeth (Fig 2) The trays can be inserted through a space of less than 1 cm between the upper and lower incisor teeth To the outer sides of each tray are soldered heavy wires, which pass out of the mouth and curve backward over the cheeks like Kingsley splints The wire attached to the upper tray on each side turns down at a right angle about opposite the premolar region, and ends in a hook about 3 inches lower down The wire attached to the lower tray passes directly backward, and is provided with a hook at a point opposite the downward turn of the upper wire The dilating force is a heavy elastic band placed between these hooks on each side (Figs 3 and 4) This application of dilating force in the manner described is original with Darcissac[4] of Paris, who, however, made individual apparatus from impressions in each case, casting metal caps to fit the teeth The elastics produce a constant counteraction to the powerful elevator muscles of the mandible, which at the same time are permitted to function, the upper and lower jaws being at no time fixed Lateral movements as well as opening and closing are possible The dilating force can be readily regulated by the size and tension of the elastic bands This appliance is useful not only following fractures, but also in limitation following any other cause, or as an adjunct after operations for ankylosis It can be worn for fifteen or twenty minutes every few hours, and can easily be taken out and put in

4 Darcissac Dental Cosmos March 1922

Prevention of Delinquency—The National Committee for Mental Hygiene through a recent gift from the Commonwealth Fund has been enabled to establish a new department to be known as the Division on the Prevention of Delinquency This division will furnish psychiatric service to a limited number of juvenile courts throughout the country free or on a cost-sharing basis when requested The selection of courts will depend largely on the interest shown and the prospects for the establishment of a permanent clinic at the expense of the community A demonstration clinic including a psychiatrist a psychologist and a psychiatric social worker will be assigned to each court to which it is possible to render such aid—*Mental Hygiene* January 1922

TREATMENT OF NONUNION OF FRACTURES OF MANDIBLE BY FREE AUTOGENOUS BONE-GRAFTS*

FULTON RISDON, M D
TORONTO

The indications for bone-grafting of the mandible are nonunion of fragments of long standing, to replace lost bone due to gunshot wounds, carcinoma, infection, cysts, etc, provided enough of the ascending ramus is in situ or to protrude the mandible when the mental process is deficient

The preliminary steps may be thus summarized The patient is examined to ascertain that all infection has been cleared up for at least five months, and that there are no teeth adjacent to the ends of the fragments The roots of the teeth are always a menace to the graft, and, unless they are removed, sufficient bulk of the graft cannot be inserted If it is found necessary to remove any teeth in this area, the operation should be deferred for two months Of course, there are exceptions to this rule, one being when only one tooth remains in the posterior fragment, but in this case greater care is taken at the time of the operation to see that the root area is not included in the bed for the graft A consultation should now be had with one's dental colleague if not before, as to the desirability of the type of splints to be used, and as to the width of the desired arch of the mandible A modified Hammond splint has been used by our colleagues Drs Campbell and Gordon, with a pin and tube attachments for locking the lower to the upper jaw, and the metal of choice has been Victoria metal, supplied by Claudius Ash, Sons & Co, of London, England Any metal which, after it has been cast, has still some temper and is strong, meets all the requirements We have used coin silver with equally good results, but care should be taken in the casting that the baser metals are not lost Should this occur, it is easily detected, as when the casting is pressed over the teeth the splints spread at the widest part of the teeth and do not grip at the cervical margin

These splints are cemented with Ames copper cement four days previous to the operation, and the pins are inserted in the tubes on the second day

The diet of the patient must, of course, be changed, and he is placed on a semisolid diet, including soups, mashed potatoes, minced meats, egg-nogs, junkets, etc, and one bottle of stout a day These patients do not lose weight but, of course, are not working

The right or left hip is prepared by the nurse the day before, as the bone selected by us is always taken from the crest of the ilium We have used the rib with success, and also the tibia, but prefer the ilium for the reasons that it is very easily and quickly obtained, it is more cancellous than either of the bones named above, and greater bulk of bone can be obtained We assume to a large extent that the theory of absorption of the entire graft and its replacement later by bone-forming elements, as outlined by Gallie and Robertson, is the accepted theory of bone regeneration If we accept this, the more cancellous the selected bone is, con-

* In this work Dr Carl Waldron now of Minneapolis was associated with the author

* Read before the Section on Stomatology at the Seventy-Third Annual Session of the American Medical Association St Louis May 1922

sistent with its strength, the greater proportion of successes should follow its use, and this we have found to be a fact in actual practice

The type of anesthesia employed is of considerable importance, as the anesthetist must at all times after induction be some distance away from the field of operation We prefer the intratracheal, in which a catheter is passed under direct vision between the cords into the trachea, and the anesthetic given by a machine, such as the Connell We have also used rectal anesthesia, but discarded it after seeing the advantages of the intratracheal method Anesthesia is induced much more rapidly, and the patient recovers more quickly and is more under the control of the anesthetist We have not attempted any operations under local anesthesia, although we know it could be used, but we feel that this is too important an operation for that type of anesthesia, as the patient might interfere at any moment

The technic of the operation is most exacting, and in no other field of surgery is it more so I believe that the entire success of the operation, having previously excluded infection, depends on this most exacting, tedious, excellent technic

The first step must exclude the mouth, and this is done by placing a sterile piece of rubber dam parallel with the lower border of the mandible, some distance from the line of the incision, and held in position by adhesive tape When this is turned back it covers the mouth and prevents moisture from soaking through the towels The neck is now cleansed with pure alcohol, continued for fifteen minutes After the incision has been made, as a rule about 4 or 5 inches long, the scalpel is discarded for another and the wound completely walled off by towels with clips Under no circumstances is the gloved hand permitted to come in contact with the wound, sutures or sponges This is all done by freshly sterilized instruments, even to the tying of ligatures This is known as the nontouch technic or bone-technic, introduced by Sir Arbuthnot Lane We had the privilege of very close association with him during the war, and we feel deeply indebted to him for his kindness and patience in teaching us his methods

The hip area is prepared in the operating room again, with alcohol, the same technic being observed, and the bone is obtained by a chisel and a mallet We discarded the electric saw, because we felt that it burned the bone owing to the rapid revolutions of the small circular saws, and in this way destroyed the bone-forming elements If water was used to overcome the resultant heating, moisture gained access to our wound and soiled our towels We prefer bone rongeurs, hand drills and the more laborious methods, as they have given better results in our hands We prefer a square butt joint if possible, and use Belgium iron wire to hold the graft in position These wires are not removed, and no drainage is placed in the neck wound but is inserted in the hip area The wound is closed with metal clips rather than sutures, and the splints left in the mouth for three months

In our clinic seventy operations were performed, resulting in sixty-six successful bone-grafts four failures, and no deaths, an average of 90 per cent of successes In the last two years we have done twenty-one, with one failure, and that failure was due to an opening into the mouth at the time of the operation

30 Avenue Road

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS IVY AND RISDON

DR CARL W WALDRON, Minneapolis—Dr Ivy has presented a practical means of treating most of the simple fractures of the mandible, I think he has largely overcome the difficulty many had in the method of wiring the teeth In our war work the splint which Dr Risdon has shown served admirably but in civil practice on account of the lack of trained technicians, I feel that Dr Ivy's methods are better With reference to his views that certain teeth must be temporarily retained, to prevent loss of a fragment I cannot agree We followed that practice in our Canadian service for years The British service was radical We saw later many nonunions in which we felt that we would have secured good strong union with our methods With reference to bone grafting, I agree with Dr Risdon that the iliac crest is preferable Before I left England I saw some 100 bone grafts of the mandible clinically Many had splints in place which did not prevent manipulation I was convinced those cases treated by iliac crest grafts were by far the most successful grafts The graft advocated by the Frenchmen has certainly a place, particularly where there are thin fragments without a basis for an iliac crest graft, in such cases I feel that the osteoperiosteum graft has a place

DR WILLIAM S BAINBRIDGE, New York In the navy we have not had as good results as we hoped we might have with bone grafts I think it is due largely to the lack of technic and perhaps the finesse of key working which was so important Troops from India were fed on their own food to which they were accustomed because of religious belief Some of the British surgeons called my attention to a lamentable failure of healing wounds and bone repair in certain regiments Those that had poor teeth, mouth conditions bad, poor healing and repair of bones, far more nonunion and much pain were from the same part of India The British surgeons in charge of the men discerned that there was only one reason why this regiment suffered They had not brought from India the olive sticks the natives use for the cleaning of the teeth They were provided with ordinary tooth brushes which they would not use When however, the mouths were cleaned up and the men furnished with olive sticks their conditions improved and when bone was transplanted and bone repair inspected, conditions were found improved

DR F B MOOREHEAD, Chicago Success in bone graft surgery is due to certain fundamental principles, the nontouch method developed by Lane and quite equal in importance, is the securing of a perfectly well healed field, one quite free from infection Nothing should be allowed to touch the wound except a sterile instrument, the fingers should be kept out entirely After watching Dr Risdon's work I am quite converted to the use of the crest of the ilium as better material for transplanting purposes than either the rib or the tibia

DR T L GILMER, Chicago Dr Ivy has been good enough to refer to what he calls my method of wiring the teeth of the mandible to those of the maxilla in the treatment of fracture of the mandible For the last eight or ten years I have abandoned the method he credits me with, except for temporary purposes The method of wiring I now usually employ has an advantage over the older method and I think over Dr Ivy's method It consists of wiring an expansion bar such as is used by orthodontists to the buccal and labial surfaces of the teeth of the mandible and maxilla These bars are wired together by two or three small wires By this method one is able to cut the wires, holding the teeth in occlusion, every few days, so that the mouth may be opened for cleansing This is done without danger of displacement of the fragments of bone, since the expansion bar holds the teeth in alinement Fractures of the mandible occasionally occur without completely severing the periosteum and in such cases the fragments are not displaced If the patient does not use the jaw for mastication he will be better off

without immobilization The treatment of ununited fractures by bone grafts is often good practice In a few instances when other methods have failed I have employed the Cole pedicle graft with excellent results

DR FRANK J TAINTER, St Louis During the war I was connected with several clinics in which we had to treat a number of fractures of the mandible with loss of substances They were all repaired by bone grafting, the ileum graft, the rib and the pedicle graft I happen to be connected with Dr Cole who first described the Cole's pedicle graft In the treatment of fractures there are a few principles that should always be taken into consideration, first, absolute reduction, and second, immobilization No matter where you take the bone, if the fragments are not properly immobilized you cannot expect a good result following a bone graft The type of fractures we had the most difficulties with were those that left the posterior fragment with no teeth on it We feel that the graft from the ileum lent itself better to the curves and to what was expected of it than any other bone taken from any other place but our results from the pedicle graft were far better than from any free graft The pedicle graft has a good blood supply, nearly always carries with it small muscle and even in the face of infection one may secure perfect results I am quite sure the pedicle graft described was not Cole's pedicle graft Cole always insisted that whenever any bone was splinted all the bone that could be exposed should be opened up and freshened and the bone graft put in I wish to speak of the splint shown by Dr Ivy, a most ingenious thing for the correction of trismus of the jaw I think it the most perfect mechanical appliance on the market Ruggles suggested the use of a clothes pin for the same purpose and we have been successful with it In our clinic work we never had trismus following our cases

DR THEODORE BLUM New York I have been using the so-called army method for correction of fractures of the mandible since 1916 when I first saw it demonstrated by Lieutenant Graham of the U S Army in Belmont The only slight improvement which I would like to suggest to Dr Ivy's method would be that the wire should not be turned at the height or convexity of the tooth but that the wire should be placed at the interproximal space and it would then be covered by the loops

DR ROBERT H IVY, Philadelphia I have never found it necessary in any operation involving the face, mouth or jaws to use intratracheal anesthesia For these cases I employ intrapharyngeal ether introduced through nasal tubes With this method it is not necessary to disturb the intermaxillary fixation, and the mouth can be kept closed The use of wire for the fixation of bone grafts has been condemned by some authorities, but in my experience silver wire gives the greatest satisfaction and much better approximation can be obtained by twisting the wire than by using any animal suture material For the general run of cases the ilium graft is superior to any other type Other methods are indicated in special cases The pedicle graft has the advantage that it can be used with greater chance of success in the presence of infection My chief reason for employing the method of wiring the teeth in ordinary civil life fractures of the mandible is to get away from the bother of taking impressions and making splints The wiring does not necessarily fix the fracture any better than a properly made interdental splint Splints do just as well, perhaps better, when there is an organized staff to make them but it is difficult to get the work done under ordinary conditions I am quite familiar with the present method used by Dr Gilmer for fixation of fractures of the mandible, and admit its efficiency My idea is to simplify matters as much as possible so that the average surgeon can handle these cases without having to resort to special apparatus or special men to make it

DR FULTON RISDON Toronto I have used the ordinary eye that is used for ladies' dresses, wiring it around each tooth on both sides of the fracture doing the same to the teeth in the upper jaw in the region of the fracture and attaching the eyes together with silk rather than wire In handling a large number of these cases we found silk of much more service than the wire, because in our hands it did not loosen so quickly There is really nothing to this little appliance, but it has helped me with some cases In reference to the anesthetic for bone grafting, we prefer the intratracheal method In using this a catheter is placed between the cords and out between the lips, as in most of these cases some teeth are missing Under no circumstances do we use an open bite splint The interesting feature of this anesthesia is that one does not have pneumonia as a complication, at least that is our experience

Clinical Notes, Suggestions, and New Instruments

CARPOMETACARPAL DISLOCATION

EDWARD H MCLEAN, M D, OREGON CITY ORE

Cases of multiple dislocations at the carpometacarpal articulation are of sufficiently rare occurrence to warrant their being recorded for statistical reasons

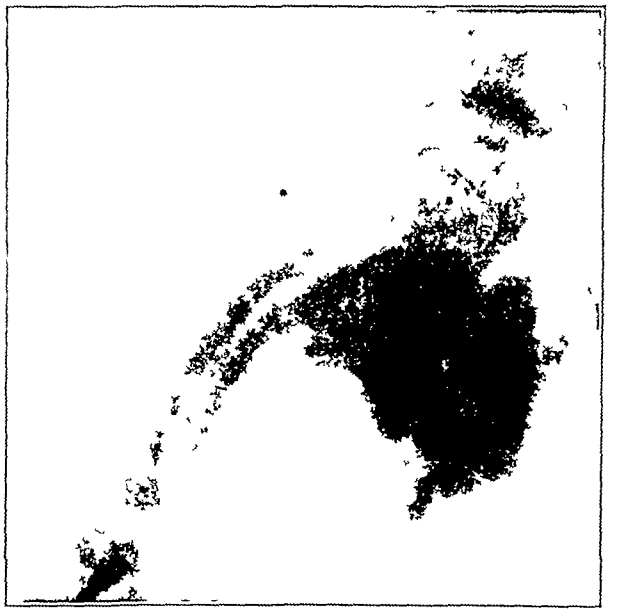


Fig 1.—Carpometacarpal dislocation lateral view before reduction

A farmer, aged 40, was injured while pulling stumps He was using a puller in which a 14 foot pole acted as a lever The chain by which two heavy farm horses were hitched to the pole parted, releasing the pole, which struck the patient on the back of the right hand, right forearm, and right lower thorax He was thrown violently to the ground, striking on the left hand with the arm outstretched

The injuries sustained consisted of fractures of several ribs on the right side of the left clavicle and of the right ulna laceration of muscles of the right forearm, laceration and contusion of the right hand, and the dislocation to be described occurring in the right hand

On account of the marked swelling of the hand, the condition was not suspected until after about a week of local treatment At this time, an unusual thickening of the wrist and hand with apparent shortening of the metacarpus, was noted Examination by roentgen ray revealed a posterior dislocation of the four inner metacarpals on the carpus with about an inch of overriding, anterior dislocation of the thumb metacarpal, with an inch of overriding, and fracture of the base of the index metacarpal

Reduction was easily accomplished by traction and direct pressure The presence of fragments of the base of the index metacarpal between it and the base of the middle finger prevented complete reduction of the former

Two years after injury, the patient has a hand that is nearly normal functionally He is unable to close the index finger completely to make a tight fist, but he can milk and do other farm work requiring the use of the finger Excision

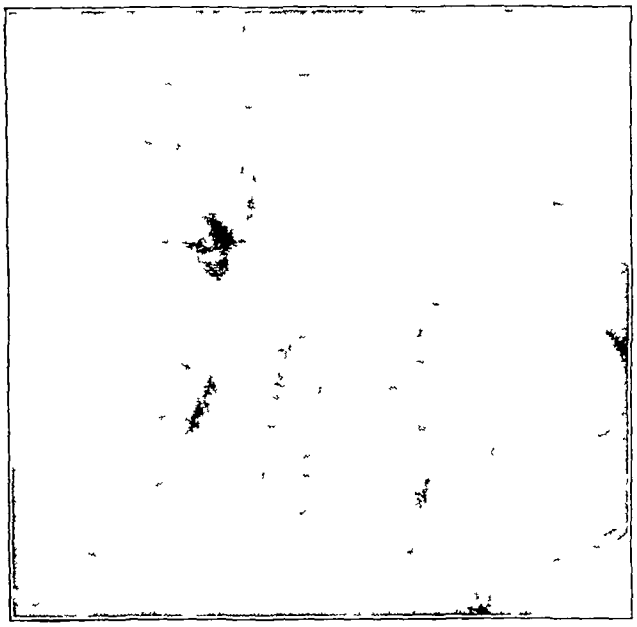


Fig 2—Carpometacarpal dislocation anteroposterior view after reduction

of the fragments of the base of the index metacarpal would have given a better result, but the patient was unwilling to submit to operation

DIRECT VISION ADENOTOME

I D KELLEY, JR M D ST LOUIS

Working on the assumption that the existing method of adenoid removal with the instruments thus far devised is

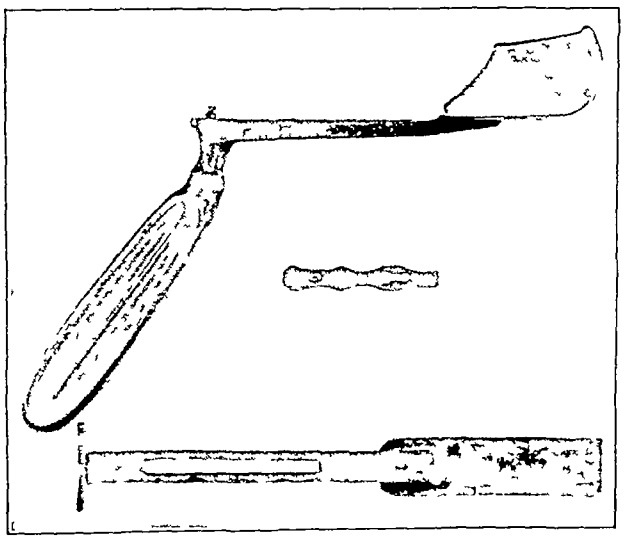


Fig 1—Parts of direct vision adenotome

unsurgical, because of the fact that to carry out this operation the operative field has not been in the direct line of vision of the operator, I investigated thoroughly the postnasal space I found it possible to construct an instrument that would not only remove the adenoid as completely as any instrument thus far devised, but also bring the adenoid area in direct vision of the operator previous to and at the time of removal, and do away with the untoward results in previously devised operations, such as blind technic, stripping of the posterior pharyngeal wall, partial adenoid removal, and loss of the removed adenoid

The principles which this instrument employs are (1) elevation of the soft palate by the oral route sufficient to expose to view the circumference of the posterior nasopharyngeal wall, and (2) a cutting blade adhering to the curvature of this wall, working from below upward, incising the adenoid from its nasopharyngeal attachment

The instrument consists, as seen by the accompanying illustrations, of a hood or soft palate retractor, the distal or blade end of which, when put into position, conforms to and rests directly against the postnasopharyngeal wall This is attached to a steel shank, from the proximal end of which extends a hand grip at such an angle as to prevent chin or chest interference when gripped and placed in position On the upper surface of this shank is placed a steel shaft, to which is attached at its proximal end a thumb pressure plate, and to its distal end by means of an eye and post a flexible steel blade running in two slots on either side of the distal end of the hood, traversing the surface from below upward and held in position on the shank by a steel clamp

The instrument is to be used in conjunction with either indirect illumination (as seen in the illustrations) or direct illumination, when so desired, by placing a small electric

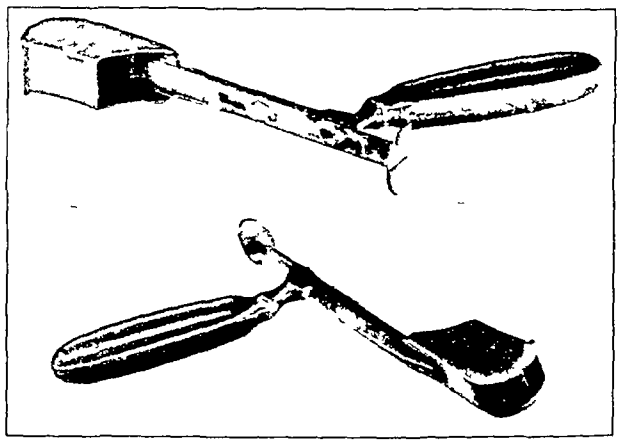


Fig 2—Two views of instrument assembled

lamp in the upper inner surface of the hood, carrying the wiring along the under surface of the shank and out through the end of the handle

TECHNIC FOR USING THE INSTRUMENT

Under local or general anesthesia, the mouth is widely opened with a gag and the instrument introduced through the oral cavity under the lower border of the soft palate The distal end of the instrument is then elevated behind the soft palate until the upper surface of the hood assumes a plane corresponding to the angle of the vault of the nasopharynx with the posterior wall It is then gently pushed into approximation with the posterior wall, whereupon the adenoid will be in full vision of the operator In this position, by means of the thumb plate, the blade is pushed home the instrument removed, and, inside the hood, producing when the blade is closed a cup, will be the adenoid, severed from its postnasal attachment

The instrument is to be made in several sizes corresponding to the dimensions of the nasopharyngeal space in persons of varying ages

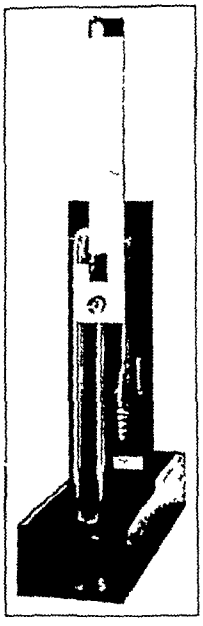
608 Humboldt Building

State Aid for Crippled Children—Backed by 460 rotary clubs in Ohio, legislation has been enacted providing first for treatment of all crippled children at state expense and secondly for the establishment of special schools and classes for crippled children the state allowing $300 per child

FOLDING SPHYGMOMANOMETER

PHILIP A SHEAFF M D PHILADELPHIA

The apparatus here illustrated is simple, dependable and readily portable The scale registers from 0 to 300 mm The apparatus is susceptible of refined adjustment and has the upper half of the glass tubing permanently attached It folds up, having no rubber washer to get lost or wear out, the joint being a ground one composed of steel automatically closing the exit of mercury when not in use Consideration of varying capillarity in the surfaces of the mercury is eliminated, as the two surfaces are the same diameter



Folding sphygmo manometer

CONVENIENCE

The apparatus can be readily carried in a coat or hip pocket, and when it is not in use it may be maintained in the upright position in any book case, although it may be placed in the recumbent position without disaster, if one is careful

When closed, it is held shut by a spring lock, and measures 1⅝ by 2¾ by 8⅞ inches

The instrument here illustrated and described is home made but for practical service has given me much satisfaction

4006 Baring Street

HEAD REST FOR GANGLION OPERATION*

ALFRED W ADSON M D AND GEORGE G LITTLE M E
ROCHESTER MINN

A head rest for use in a ganglion operation should be easily adjusted and applied to the head, and at the same time hold the head firmly during the operation without producing undue pressure on any particular part of the head Such a head rest (Figs 1 and 2) has been developed and used satisfactorily in many ganglion operations The head rest may be slipped on a Balfour operating table, but if the distance between the bar arms is varied (*M*, Fig 1) it will fit any operating table it is adjusted with two universal joints so that the head can be raised, lowered, or tilted from side to side as the surgeon desires It is especially designed to support the patient's head gently yet securely, during a ganglion operation in such a manner that the field of operation is wholly unobstructed

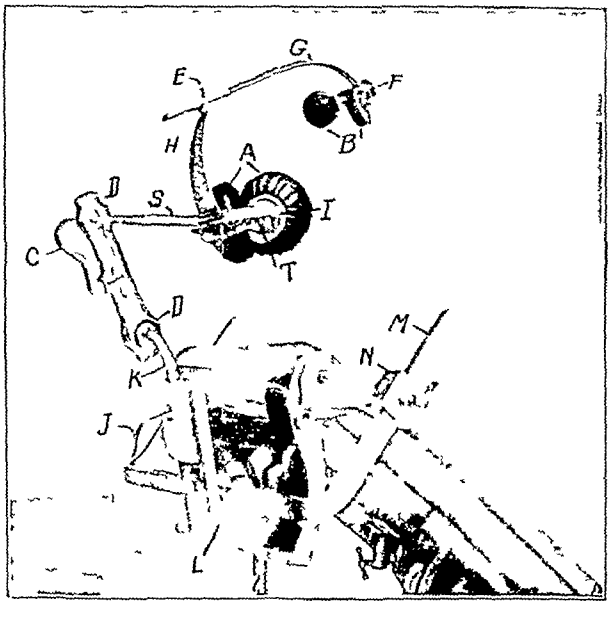


Fig 1.—Ganglion head rest attached to a Balfour table

In Figure 1 the two pads *A* are secured to a common cross bar and swivel on their respective centers, *T*, while the bar is supported at the ends by pins *I*, this allows the head piece a free swinging movement at *I* while holding the head securely Arm *H* is secured rigidly to the cross bar, and supports the adjustable arm *G*, which is locked in position by screw *E* The two front pads *B* are supported on short adjustable arms and locked in position by screw *F* The forked arm *S* and the arm *K* have ball terminals fitted into sockets *D* and *D* and are locked by movement of the handle *C* The handle *J* locks the arm and block *K* in position on the slide *L* Slide *L* is adjustable along bar *M*, which in turn is secured to and locked in position on the side bar of the table by block *N*

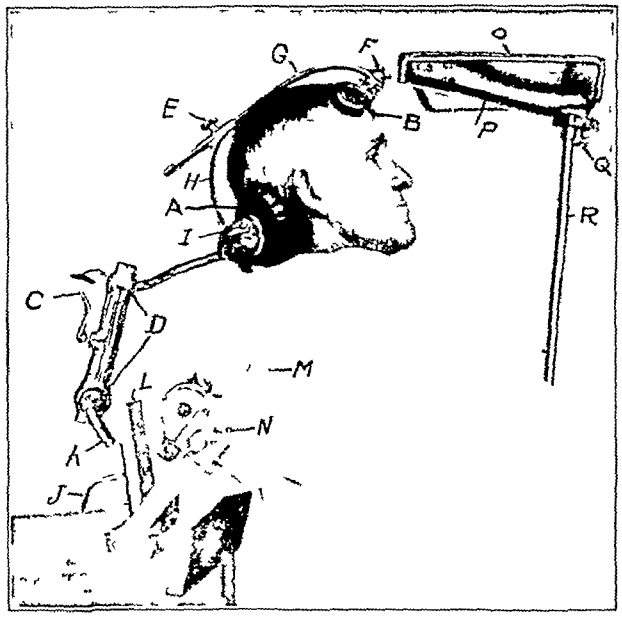


Fig 2.—Patient in position with head securely supported

Figure 2 shows the patient in position with the head securely supported The instrument tray and stand, attached to the side of the Balfour table, are adjusted to hold the towels away from the patient's face, and to leave ample room for the anesthetist

* From the Section on Neurologic Surgery and the Surgical Instrument Shop Mayo Clinic

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Nutrition Classes in Rochester a Success—According to a report recently made public by Dr Herman J Norton, the nutrition class in the Rochester public schools has accomplished excellent results All the nutrition classes gained better than an average of 285 per cent of the normal rate of gain The average normal gain of a boy or girl in grades three to eight inclusive, ranges from one-half to three-fourths pound (0.23 to 0.34 kg.) per month, in the nutrition classes it was not unusual for the children to gain from 2 to 3 pounds (0.9 to 1.3 kg.) in weight in thirty days These classes were run on the plan devised by Dr Emerson of Boston Enough nutrition classes have been established in Rochester to care for 7000 children A half-pint bottle of milk a day was provided for all children who were 4 per cent or more below average weight for height and who were unable to buy milk themselves The report states that this milk was an important feature of the work

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 22, 1922

WHY DOES THE TUBERCULOSIS DEATH RATE FALL SO RAPIDLY?

It is well known to sanitarians, says Haven Emerson, that the death rate from tuberculosis in the United States, in Great Britain and in Germany had been falling in a fairly uniform manner from a time earlier than Koch's discovery of the tubercle bacillus till the outbreak of the World War This has made some thoughtful persons doubt the assertions of public and private health agencies that reduction of tuberculosis has been largely due to, or at least has been very materially increased by, the campaigns of education and enforcement of early diagnosis, notification, early treatment, segregation, pasteurization of milk, infant welfare, and correction of malnutrition The effect of these various influences has been analyzed in detail by a recent writer [1]

Some evidence has been published tending to show that where the education and the organization of a community to prevent tuberculosis have been thorough, and where the conditions of housing, industry and economic independence have been favorable, the death rates from all forms of tuberculosis have fallen more rapidly than they have elsewhere, even taking into consideration all factors of age, sex and race composition of the communities concerned This applies more particularly to the large populations of the United States, Great Britain and Germany In France, in contrast, there has been not only a high tuberculosis death rate, but a rate which remained at a fairly uniform level over a long period up to the outbreak of the war In France, however, the tuberculosis death rate has fallen considerably in Paris, from 437 in 1887 to 328 in 1914, so that the stationary death rate for France depends on the absence of any fall at all in the small communities of that country, presumably because conditions of life and sanitation have remained relatively unaltered

Since 1914, in the United States and in New York City, there has been so great an increase in the rate of decline in the number of deaths from tuberculosis that it is important for us to consider what have been the dominant factors of the many possible causes of such a phenomenon It is at once obvious that if these factors can be brought under control and duplicated elsewhere or their action made continuous or permanent, we can foresee the eradication of tuberculosis as a disease of importance within the next twenty years in this country, and, again, that while there are not only great suffering and formidable losses from the disease, and the public is spending large sums to protect itself and deal generously with those already attacked, it is the special duty of public and private agencies engaged in combating the disease to take account of their claims, their methods and their demonstrable accomplishments and, perhaps in the process, to develop a change in their point of view and acquire a new sense of proportion and perspective in pushing their present advantage against tuberculosis In the last fifty years there has been a fall of 77 9 per cent in the tuberculosis death rate in New York City, in the last eleven years, a fall of 51 per cent, and in the calendar year of 1921, a fall of 18 1 per cent

Of all the factors involved in this beneficent change, Haven Emerson [1] seems inclined to lay most stress on the improved financial and living conditions of the poor, including, with this, decreased alcoholism and the lessened expenditure for alcohol He says that it is probably not too much to say that in the next twenty-five years as great a percentage of reduction in tuberculosis can be attained as has been accomplished in the last fifty years, by adding to our methods and resources those which will build up bodily resistance by providing for and following a higher standard of living, and those which will diminish the hazards of occupation and of occupancy

The influenza epidemic, paradoxical as this may seem, has had undoubtedly a considerable influence in reducing recent tuberculosis mortality as shown by vital statistics, since deaths occurred because of influenza, which masked or at least permitted a preexisting pulmonary tuberculosis to go undiscovered, with the result that many who would have died of pulmonary tuberculosis within the last four years, and would have been reported as dying from tuberculosis, died of influenza without record of the simultaneous tuberculous involvement

A factor of much significance in the vital statistics of large cities, and especially in New York, is the racial change in our population due to unrestricted immigration of the Jewish people, especially from Germany, Russia and Poland up to 1914, and the limitation of all immigration since that date and more particularly since 1917 The Jews have notoriously a much lower tuberculosis death rate than most other people, especially the Irish, Scandinavians and Italians, whom they have largely replaced among the immigrants of recent years

Another factor not emphasized by Emerson, but which some other epidemiologists might stress, is the

1 Emerson Haven Am Rev Tuberc 6 282 (June) 1922

fact that our growing concentration of population has led to more universal exposure of the young to tuberculosis under favorable conditions for resistance, whereby they acquire a greater or less degree of immunity to subsequent fatal reinfection Furthermore, we cannot disregard the possibility, even though it has not yet been firmly established as a fact, that the survival of several generations exposed to tuberculosis confers at least some increased capacity to overcome the disease To what else can we attribute the racial resistance of the Jews to tuberculosis after generations of life in crowded, unhygienic conditions?

It will be noted that these favorable factors were not developed with the object of reducing tuberculosis, but rather they are merely social and economic events of a character to cause a reduction of the disease, which always reflects in its prevalence the great movements of races, changes in wealth and in industry, and pandemics of other diseases Hence it becomes extremely difficult to estimate the influence that has been exerted in pushing down the tuberculosis death rate by the purposeful efforts that have been made so vigorously in this country It would be of the greatest importance to know just what the effect has been of notification, segregation, hospitalization, and the host of sanitary measures and educational campaigns that have been introduced, but their influence on the falling mortality curve cannot be picked out and measured specifically Emerson holds that it is possible to see the effect of improving milk supplies by pasteurization, for since this has been enforced in New York, there has been a notable change in the rate of reduction of the nonpulmonary forms of tuberculosis in this city In 1914 the rate was 27, in 1921 it was 14 per hundred thousand That much of the lymphatic, bone and joint tuberculosis has been of bovine origin is admitted, and as a specific instance of the change since the general pasteurization of 98 per cent of all our city milk supply, instead of finding 64 per cent of a series of 100 cases of tuberculous adenitis to be of bovine origin, as was the case in 1912-1913, only 16 per cent of a series from the same hospital source were found to be of bovine origin in 1917 by Dr W H Park Whether or not adult pulmonary tuberculosis has been affected by reduction of the tubercle bacillus content of milk, the reduction of milk-borne bovine lymphatic tuberculosis of children is an accomplishment of great and lasting importance

In the absence of any possible way of estimating the value of each of the many other factors that have so wonderfully reduced the menace of tuberculosis, we can scarcely discard any of them that may reasonably be considered to play a part in the total result Medical, sociological and industrial betterments must continue their parallel progress in the future, since together they have accomplished one of the most remarkable advances yet made in human welfare

THE TRUE STATUS OF ENDOCRINOLOGY

The symposium on so-called internal secretions, and the various facts, problems and hypotheses often discussed under the name of endocrinology, at the St Louis session of the American Medical Association,[1] cannot fail to have a wholesome, stabilizing influence on the medical profession It is high time that physicians, to quote one of the authors, should have their feet on the ground when they attempt to enter domains where so few paths have been cleared, and where the directions for advancing to undiscovered goals are so largely the figments of unrestrained imagination Professor Carlson of Chicago, in particular, has attempted with commendable frankness and fervor to dissociate fact from fiction in the entangled claims about the ductless glands He deserves serious attention when he says that we cannot practice quack methods and escape the just censure of society This dictum is correct if, as Carlson firmly believes, much of the glandular therapy of today, however harmless to the patient, injures the good name of the medical profession with intelligent laymen

It is beyond the scope of these editorial columns to review the varied claims that have been made for the roles of the "principal endocrine organs"—the thyroid, the parathyroids, the thymus, the lymph glands, the suprarenal glands, the gonads, the pituitary, the pineal, the insular tissue of the pancreas (islands of Langerhans), with the added possibility conjectured by Barker [1] that other organs, as the spleen, the kidneys, the liver, the salivary glands and the prostate, also perform endocrine functions in addition to their other physiologic activities The outstanding facts are that extirpation experiments on healthy animals have shown the loss of a few of these organs or tissues to be followed by unmistakable symptoms of abnormality Disease may bring about similar lack of function in the case of some of the structures referred to, and it is highly probable that corresponding glandular hypofunctions in man will induce similar disease syndromes Latterly there has been a marked tendency to conceive of function in the case of the ductless glands on the basis of hormone production, that is, specific substances are produced by the structures under consideration, and, being carried to remote cells through the circulatory mechanisms, influence these parts as excitants or depressants, promoting or retarding their usual performance It is still possible, however, to interpret the symptoms produced by the extirpation of the ductless glands on the detoxication theory which formerly was foremost in the discussions in this field Thus, the products of the endocrine structures are supposed to perform the task of neutralizing

1 Barker L F Endocrinology J A M A 79 89 (July 8) 1922 Cannon W B Some Conditions Controlling Internal Secretion p 92 Aub J C The Relation of the Internal Secretions to Metabolism p 95 Carlson A J Hypofunction and Hyperfunction of the Ductless Glands p 98 Hoskins R G Some Principles of Endocrinology Applicable to Organotherapy p 104

poison and substances of endogenous or intestinal origin circulating in the body It is by no means easy to distinguish between the effect of a detoxicant and that of a "regulator"

The hormone theory of internal secretion has received a great impetus from the discovery that the extracts of certain tissues, and subsequently that chemical substances identified in them, exert pronounced physiologic effects on the organism The action of epinephrin and thyroxin are the classic illustrations It was a natural conjecture, though by no means a logical deduction, that the potent suprarenal constituent is in truth a secretory product which is discharged from the glands into the blood stream in order to accomplish in the physiologic economy in every-day life what the laboratory investigator has demonstrated that the isolated product can do The evidence, however, is far from substantiating this At any rate, the hypothesis that blood pressure is ordinarily sustained by suprarenal secretion and that disturbances of the latter condition pathologic variations in arterial tension is being abandoned At most it is asserted, though even this is debated vigorously, that the suprarenal output of epinephrin represents an acute emergency response in times of physiologic stress This is far from saying that epinephrin is an indispensable hormone and that the essence of suprarenal function lies in secreting it It has been demonstrated that an amount of epinephrin required to cause a rise of blood pressure is sufficient to stop all motions of the stomach and intestines[2] "A ridiculous mechanism it would be," says Cannon,[1] "that would stop digestion in order to provide a few extra millimeters of arterial tension! There is no satisfactory evidence that in natural, quiet existence, the suprarenal medulla gives off any secretion whatever"

It is a fundament of much of the current endocrine theory that the hormones produced, the internal secretions, the "incretions," as they have lately been designated, may act on distant cells in a modifying way, either directly through transport in the blood to them, or indirectly through intermediation of the nervous system Yet it is well to remember that no chemical methods are at present available by which we can demonstrate the presence of admitted hormones and their quantitative variations in the blood and tissues, or even in the glands themselves Epinephrin can be estimated, but who will say that it is a true internal secretory hormone? Iodin can be determined in the blood and thyroid, but is this element an index of all that the thyroid is assumed to accomplish, and is all iodin present as thyroxin? Little wonder, then, that we have been admonished that "no single phase of endocrine dysfunction is satisfactorily worked out today, either clinically or experimentally" It affords little help to hear that endocrinology has "arrived" Progress in endocrinology can at best come only slowly, and, to quote Rowntree,[3] through correlated, adequately controlled investigations in which the findings are subjected to interpretations based on analytic and critical judgment Endocrinology needs a leadership willing to admit the magnitude of its shortcomings Its real contributions will then become more evident

2 Hoskins R G and McClure C W The Adrenal Glands and Blood Pressure Arch Int Med **10** 343 (Oct) 1912

3 Rowntree L G Abstract of Discussion J A M A. **79** 107 (July 8) 1922

SMALLPOX

Like a volcano which rumbles and smokes long before it explodes, smallpox gives the world a timely warning Within the last five years, local epidemics have occurred in Scotland, Germany, France, Spain, Australia, Burmah, the Philippines, Mexico, Brazil, Argentina, Chile, Costa Rica, Santo Domingo, Canada, and in several of our own states, in one of which an epidemic exists at present There is evidence in these outbreaks to indicate that smallpox is becoming more virulent as well as more common The mortality rate in some instances has been as high as 40 per cent The number of cases in 1921 in ninety-three American cities was reported by the Metropolitan Life Insurance Company to be 138 per cent greater than in 1920, and the number of deaths in proportion to the number of cases, six times greater A contagious disease so virulent cannot be taken lightly, however restricted the area in which it prevails

The history of the disease in the prevaccination epoch shows that long periods of quiescence are followed by virulent epidemics The intervals are characterized by less virulent, sporadic cases, or by a mild type of the disease, such as has prevailed in the United States for about twenty years Susceptible material gradually accumulates during these years, chiefly from the large number of children that grow up unvaccinated By processes as yet not well understood, the virulence of the disease increases again, outbreaks become epidemics and smallpox once more stalks abroad as "Captain of the Men of Death" In the eighteenth century, only one person in twenty-five in England escaped the disease It was constantly present in London, where the deaths at times numbered from 3,000 to 15,000 yearly In the same century, Boston had seven severe epidemics With a population in 1721 of 11,000, Boston had more than 6,000 cases of smallpox and 850 deaths, a mortality rate of 77 per thousand To understand what that rate means, one should compare the epidemic of influenza of 1918, which caused only 8 deaths per thousand, about an eighth or a ninth of Boston's mortality rate from smallpox in 1721 In recent years, few large cities have suffered more than Philadelphia where, within the thirty-three years ending in 1904, three epidemics occurred, with more than 30,000 cases and 7,600 deaths In this day of rapid intercommunication, it is well to recall that smallpox was intro-

duced into Montreal in 1885 by an unvaccinated Pullman car porter, causing 15,000 cases and 3,164 deaths

Indifference to the disease and prejudice against the chief means of prevention make the present situation more serious A long period of comparative immunity has made people careless regarding vaccination, and some physicians have become careless and have failed to urge vaccination on their patients To make matters worse, a vicious propaganda has misled many people to oppose vaccination openly Thus the percentage of the population that is unprotected has grown and unless conditions in this regard improve, outbreaks of smallpox may be expected To encourage vaccination at this particular time is to do a public service

IS GERMAN DOMINATION OF DRUGS AGAIN IMMINENT?

Previous to 1914, the large proportion of the synthetic chemicals and drugs employed by American chemists and physicians was supplied by German chemical interests So slight, indeed, had been the sporadic attempts to create an American organic chemical industry that it was not even necessary for German importers to carry large stocks of necessary drugs Shortly after the outbreak of the war, serious shortages occurred, and the prices of imported drugs in America rose precipitously Arsphenamin—then known only under the proprietary name "salvarsan"—sold at fabulous prices, and many were deprived of this spirocheticidal agent So commercially important was the drug that it composed a large portion of the cargo of the *Deutschland* on its historic voyage During the period of necessity, THE JOURNAL repeatedly urged editorially that the patents on this drug be abrogated Concomitantly a shortage of dyes—interdependents of drugs—had occurred

In 1917, after war between the United States and Germany had been declared, Congress passed the "Trading-with-the-Enemy Act," which provided that German-owned patents could be operated by American citizens on the granting of a license from the Federal Trade Commission The nonproprietary names "arsphenamin" (for salvarsan), "barbital" (for veronal), "cinchophen" (for atophan) and "procain" (for novocain) were coined, and a number of American firms were licensed and began to supply the drugs under these names This was not accomplished, however, without considerable research work, because German patentees had, in many instances, violated the spirit of our patent laws, the very basis of the American patent system—nonsecrecy—had been circumvented Although both process and product letters of patent had been issued to foreign subjects, nevertheless frequently the patents were not workable, and the descriptions were inadequate for successful manufacture The Germans apparently took out American patents with a view to stifling any prospective American chemical industry

Shortly after the Federal Trade Commission began to grant licenses, the Alien Property Custodian (who had seized many patents along with other German property) was authorized to dispose of seized property, the proceeds from the sales to be held by the government until settlement was made with the enemy So it was that at first certain firms formerly under German control, such as the Bayer Company, were sold, together with the patents in which the firm's ownership was proved It was soon evident, however, that the establishment of a permanent chemical industry —so necessary for public health and national defense— could not be obtained in this manner A corporation, the Chemical Foundation, Inc, was then organized, to which the remaining 4,700 German patents were sold, by executive order, for the nominal sum of $250,000 The purpose of the foundation was stated to be the holding of patents, as a trustee, for the American chemical industry, "for the Americanization of such institutions as may be affected thereby, for the exclusion or elimination of alien interests hostile or detrimental to said industries, and for the advancement of chemical and allied science and industry in America" Licenses have been granted to any firm that could present satisfactory evidence of its reliability in chemical manufacture, no firm may have a monopoly on any patent As has been stated, all moneys earned are to be spent for altruistic purposes The Chemical Foundation has served as a bulwark in establishing chemical independence in the United States Today no shortage of drugs exists, while the quality of American-made synthetics is second to none The American chemist deserves credit for accomplishing this in spite of the many handicaps, such as the lack of facilities and the hindrances caused by the nonworkable patents Of course, drug manufacture cannot be successful without dye manufacture at the same time But the drug industry has been maintained in the days since the war in large measure through the efforts of the Chemical Foundation, which has kept the patents strictly in American hands, and has worked for the protection of the industry Other aid has been the embargo on foreign dyes

Now, however, a grave situation impends The embargo on dyes—without which an independent pharmaceutical industry is impossible—is about to expire, the Senate, by a close vote, has refused to extend time, and the tariff is unsettled President Harding, on the advice of the Department of Justice, has instructed the Alien Property Custodian to take steps to secure the return to the custodian of all patents sold, under the "Trading-with-the Enemy Act," to the Chemical Foundation, Inc, and has informed the custodian that, in carrying out the instructions he shall act

only on the advice of the attorney-general What is the significance of this action?

Considerable agitation has been noticed in Congress for the return of property of private owners among the peoples recently at war with the United States Such a bill is now before the House There is some soundness in the argument of the inviolate rights of personal property, but more emphasis should be given to the statement of the *Oil, Paint and Drug Reporter,* in this connection, that the "question of generosity toward unrepentant, pledge evading enemies shrinks into insignificance in comparison with the companion proposal that would nullify the industrial victory which apparently has been America's sole gain from the defeat of her adversaries" Another argument is that the patents were sold to the foundation at too nominal a price No fault can be found with the demand of the President for an investigation, if he has evidence that indicates that the public trust was violated in selling the patents at too low a figure Certainly, a clean-cut investigation should be most welcome particularly to the adherents of the foundation, although the method of attack seems unfortunate On the other hand, Mr Francis Garvan, president of the Chemical Foundation, insinuates that a group of lawyers from Germany, representative of the German dye and drug "cartel," together with representatives of German importers, visited the Department of Justice shortly before the attack was made on the foundation, and submits evidence which indicates that strong German influences are at work in this politicocommercial intrigue

The physicians of the United States must never again be dependent on a foreign country for essential drugs, the attendant evils of the past inadequacy are still fresh in our minds The organic chemical industry of America must be maintained in the interest of public health and national security Whether by the Chemical Foundation or by some other method, American chemical industry must be encouraged The American people should know what is really behind the recent agitation, which is apparently so favorable to the German chemical trust Germany was successful in creating a chemical monopoly not only because labor was cheap but, more important, because the German government subsidized and protected the industry America can be independent only if its chemical industry enjoys reasonable protection Never again should we face the dilemma of 1915 and 1916, never should we permit any foreign domination of our therapeutics

Mental Hygiene in Industry—The movement for a mental hygiene of industry is an endeavor to apply the mental sciences, psychology and psychiatry, in personnel administration for the purpose of developing the personality of each individual worker in the interests both of good work and of human happiness It is an effort toward what might be called scientific large-scale production of individualization—M C Jarrett, *Hospital Social Service* **36** 365 (May) 1921

Current Comment

THE METABOLISM OF PREMATURITY

The metabolism of the new-born has been the subject of extensive investigations in several laboratories of this country The outcome has been consonant with the now well established idea that the energy exchange of the young adolescent is decidedly larger than that of the age after puberty An adult may have a basal metabolism of approximately 1 calory per kilogram of body weight for each hour In children below 1 year of age, the figure may reach two and one-half times this Murlin and Hoobler[1] state that 60 calories per kilogram each day may be called the heat production of normal, recently fed infants at complete rest Newborn babies, however, have been found to have a metabolism less than this and not exceeding 48 calories per kilogram each day Whether the figures for the different ages of early infancy are not essentially alike when the comparisons are made on the much debated basis of body surface rather than body weight need not be discussed here It is of interest, however, to learn from studies by Talbot, Sisson Moriarty and Dalrymple[2] at Boston that the basal metabolism of prematurely born but organically sound babies is strikingly low from any point of view This fact is interpreted to be dependent on the circumstance that there is a small amount of active heat-forming tissue in such incompletely developed infants They have an unstable body temperature tending to subnormal, and are unable to compensate readily for loss of heat The relatively large food requirement under these conditions has long been recognized Rubner and Langstein[3] have found more than 40 per cent of the calories ingested as food to be retained by prematurely born infants, thus attesting the enormous "growth impulse" which they possess

MEDICAL LICENSURE IN ILLINOIS

Following the licensure scandal in Illinois a year ago, at least two investigating bodies have recommended to Governor Small that Director W H H Miller be removed or suspended from office One was the special committee appointed by the governor himself to make an investigation Nevertheless, the governor has refused to heed the recommendations Although Director Miller was charged with trafficking in examination papers and physicians' and pharmacists' licenses, his attorneys are attempting to prove, not that Miller et al were not guilty of the acts indicated, but that they were violating no law and, therefore, that the acts did not constitute a crime! How will the licensing boards of other states regard these actions? Will they be willing to continue reciprocal relations with Illinois when the licenses granted are under such suspicion? Can any excuse be found for such bartering in certificates

1 Murlin J R and Hoobler B R The Energy Metabolism of Ten Hospital Children Am J Dis Child **9** 81 (Feb) 1915

2 Talbot I B Sisson Warren Moriarty Margaret E and Dalrymple Alice J The Basal Metabolism of Prematurity abstr J A M A **78** 1835 (June 10) 1922

3 Rubner M and Langstein L Arch f Physiol 1915 p 39

and licenses as has apparently been done? How about the interests of the public which the state employee is supposed to conserve?[1]

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC.)

ALABAMA

Malaria Experiment—The city of Florence has been selected by the government as the location for investigations on matters of health, especially the transmission of malaria. The Rockefeller International Health Board is also interested in the work. Surg. Lunsford D. Fricks, U. S. Public Health Service, is in charge. He will establish headquarters shortly. Mr. Bruce Mayne of the government health department in Memphis and Mr. Bedell of the International Health Board, Rockefeller Foundation, have been placed in immediate charge of the work by Dr. Fricks. Mr. Mayne will do the research work, while Mr. Bedell has been assigned to northern Alabama to assist and advise with the county health officers in reference to problems of drainage and mosquito control.

CALIFORNIA

Physician's License Restored—At a meeting of the Board of Medical Examiners, State of California, June 28-29, the license of Dr. Calvin Luther Case, Oakland, which was revoked, Jan. 9, 1917, was restored. This entitles Dr. Case to again practice as a physician and surgeon in the state of California.

Ophthalmologic Course—Professor Fuchs of Vienna recently accepted the invitation of a group of ophthalmologists in San Francisco to give a private course of lectures during his visit on the coast as the guest of the California Academy of Medicine. The course commenced, July 10, at the Stanford University Medical School. It will consist of thirty hours and will extend over three weeks.

Typhoid Campaign—The state board of health has started an active intensive campaign for the improvement of sanitary conditions of Japanese vegetable, berry and fruit farms. The Japanese association and the tenants of the farms showed a marked willingness to cooperate with the state board of health in this work. To date more than 100 old cesspools have been filled in and eighty new ones provided, the land owners supplying the material and the Japanese tenants performing the necessary labor to install the new equipment.

COLORADO

New Medical Society—The Tri-County Western Slope Medical Society was organized in Delta, June 22, consisting of the counties of Montrose, Delta and Grand Junction. This society was formed for the purpose of promoting social intercourse among medical practitioners of the three counties and for the education of and promulgation among the people of medical knowledge. Dr. Arthur William McArthur, Delta, was elected president of the society.

DISTRICT OF COLUMBIA

Typhoid at Church Supper—After a supper given by the Grace Lutheran Church in Washington, recently, forty-four guests were stricken with typhoid fever. According to Health Officer Fowler, most of the food was prepared the previous day and not kept on ice. Also two apparently healthy typhoid carriers aided in the preparation of the supper.

FLORIDA

New Medical Society—At a meeting of physicians at Sebring recently, the Highlands County Medical Society was organized, with Dr. Robert J. McMurray, Sebring, president, Dr. Joseph L. Cloud, Avon Park, vice president, and Dr. J. H. Bogle, Sebring, secretary-treasurer.

Personal—Dr. Ralph N. Greene, former state health officer, has been chosen president of St. Luke's Hospital, Jacksonville, to succeed G. H. Wall, superintendent of the institution who has resigned, the resignation to become effective, August 1.——Col. Raymond C. Turck, state health officer, has been awarded the distinguished service medal for services rendered during the Meuse-Argonne offensive in 1918.

Maternity Welfare Offices—The state offices under provisions of the Sheppard-Towner act have been established in the state board of health building at Jacksonville, under Dr. William B. Keating, director of the state child welfare bureau and were opened July 1. Approximately $16,000 will be spent on the work, it was stated, during the next year. The state will be divided into subdistricts, with a supervising nurse at the Jacksonville headquarters.

ILLINOIS

Physician Fined—It is reported that Dr. Edward A. Weisenhorn of Teutopolis recently paid a $40 fine and costs for failure to report births that had occurred in his practice. The court action against Dr. Weisenhorn was instigated by the local state's attorney at the request of a special agent of the state department of public health.

Baby Conferences Unusually Popular—The popularity of the better baby conference movement in Illinois is indicated by the heavy demands on the state department of public health for professional aid in organizing and directing local conferences at various points. Up to June 30, 1922, the department had furnished the personal services of an experienced physician and nurse to twenty-five different communities during the half year, while a schedule has been arranged for supplying similar services to thirty-four additional communities during the remainder of the summer and fall. Of the total of fifty-nine conferences, twenty-seven have been or will be held in connection with county fairs.

Consultation Service in Venereal Disease Cases—The division of social hygiene of the state department of public health is cooperating with the division of venereal diseases of the U. S. Public Health Service in carrying out a recently developed plan whereby the advice and counsel of several of the nation's most prominent syphilographers and genitourinary surgeons are made available to the practicing physicians without cost. The plan is referred to as the "consultation by correspondence" service. Private practitioners may forward descriptive information and other essential data relative to any of their patients, either to the state department of public health at Springfield or to the U. S. Public Health Service at Washington and this information will be placed promptly in the hands of the proper authority, for detailed and comprehensive discussion and reply.

Chicago

Personal—Prof. William E. Quine, dean of the medical faculty of the University of Illinois, will be tendered a banquet and reception on the occasion of his visit to Los Angeles this month by his old students and friends.——Dr. Caroline Hedger, medical director of the Elizabeth McCormick Fund, Chicago, is doing field work for the state college at Pullman, Wash., on behalf of a positive health program for children.

INDIANA

Physician's License Revoked—The Indianapolis *News* states that at a session of the state board of medical examiners, July 12, the license of William A. Wenz, Indiana Harbor, was revoked. It was charged that Dr. Wenz has been operating a quack medical office and that he had charged a foreign born patient more than $500 for a tonsillectomy.

IOWA

Health Conference—A four-day public health conference was held at the University of Iowa, Iowa City, June 18-22, in cooperation with the state board of health, and under the direction of Dr. Daniel C. Steelsmith of the county and city health department, Dubuque. An extensive program of lectures and demonstrations by prominent medical authorities on subjects of health was carried out and many health workers and nurses in the state attended the conference.

New Laws for Tourist Camps—The secretary of the state board of health announces that hereafter all tourists' camps

[1] Pennsylvania has suspended reciprocal relations with Illinois on licenses issued during and since 1921.

throughout Iowa will be under strict sanitary regulations, and will be regularly inspected to insure enforcement of the health law The regulations as adopted by the health board, to be enforced by local boards, pertain to the provision of an adequate supply of pure water and the proper disposal of garbage and other waste material A fly proof building shall be provided, with water flush toilets, and care taken that it be kept clean Garbage must be kept in covered metal containers distributed through the camp grounds Water faucets must be located at convenient places, and under no circumstances may water be dipped from a spring, or a barrel or any other receptacle In grounds having an unpiped water supply, a sign of warning must be placed directing attention to safe water A competent caretaker will be placed in charge of every camp, whose duty it will be to see that the grounds are kept in a sanitary condition

KANSAS

New Dispensary—A new dispensary was opened in connection with St Francis Hospital, Wichita, July 17 The dispensary is nonsectarian and will furnish medical care and drugs, free of charge A social worker will check up each case to insure that all patients are deserving Dr Leon Matassarin is medical director

LOUISIANA

Fire Destroys Laboratory—Destruction of many irreplaceable specimens is, according to health officials, the principal damage resulting from the fire which broke out in the bacteriologic laboratories of the state board of health in New Orleans, July 8 Damage to the building and equipment is estimated at $3 000

Maternity Bill Killed in the Senate—Following the argument for indefinite postponement of Representative Dymond s maternity bill, as reported in THE JOURNAL, July 8, the Senate failed to pass the bill, July 5, by a vote of nineteen yeas to seventeen nays Reconsideration of the bill was blocked by Senator G H Couvillion, who denounced the provisions of the bill as an invasion of state rights This bill provided that Louisiana give its assent to the terms of the Sheppard-Towner act

MARYLAND

Maple Heights Sanatorium—Dr Martin F Sloan, formerly director of the Eudowood Sanitarium, has recently purchased a tract of 85 acres at Sparks, Baltimore County on which he proposes to build a sanatorium for the treatment of lung diseases The sanatorium will be known as the Maple Heights Sanatorium and will be in operation about September 1 It will have accommodations for twelve patients, and other units will be put up as the needs arise

Legislative News—A bill was recently passed in the Senate providing for the appointment of a health officer for Allegany County and one providing for a commission to govern the Eastern Shore Tuberculosis Hospital The bill providing for the extension of the Injunction and Abatement Law, relating to places of prostitution, was killed in the Senate Committee House bill 310, prohibiting experiments on dogs, was killed in the House

New Diphtheria Clinic—A new diphtheria immunization clinic will be established in Hagerstown, the Washington County Health Demonstration has announced Work on the construction of the new clinic will be started in a few weeks It will be modeled and conducted along the same lines as the clinics at Johns Hopkins Hospital, Baltimore, and will be in charge of Dr Adolph S Rumreich of the Johns Hopkins School of Hygiene All material used at the clinic will be certified by the Johns Hopkins Department of Immunology

Personal—Dr G Canby Robinson, professor of medicine at Johns Hopkins University, Baltimore, during the current year, will spend the summer in study at the University of Copenhagen before assuming his duties as professor of medicine at Vanderbilt University Medical Department Nashville, Tenn——Dr Champe C McCulloch, Jr, colonel, M C, U S Army, has been appointed health officer for Allegany County as the first full-time health officer in Maryland Arrangements are also being made that may result in his serving as deputy state health officer——Dr John W Klemm, Mount Rainier, has filed application with the supervisors of elections as a candidate for the democratic nomination as representative to Congress from his district

MASSACHUSETTS

Licenses Revoked—It is reported that the license of Dr Philip A E Sheppard, Boston, has been revoked for unprofessional conduct in making unwarranted claims in the practice of his profession——The license of Dr Alfred J Boyle, Boston, has also been revoked, for violation of the Harrison Narcotic Law

Personal—Dr Alfred H Quessy was recently elected president of the state supervisors of the Massachusetts Medical Association——Dr William Duane, Harvard Medical School, will deliver the Caldwell Lecture at Los Angeles in September at the annual meeting of the American Roentgen Ray Society——Prof Harvey Cushing, Boston, recently returned to this country from England where he acted as director of the surgical unit of St Bartholomew's Hospital, London, for a fortnight, under the plan in operation the past few years that exchange visits of foreign surgeons with the Peter Bent Brigham Hospital, Boston, should be arranged, the visiting surgeon to be temporary surgeon-in-chief in place of Dr Cushing for some period in each year Prof G E Gask was deputized at Harvard in 1921 and Sir Cuthbert Wallace has just returned to England from filling a similar office this year Professor Cushing while in London delivered the Cavendish Lecture on "Meningiomas" before the West London Medico-Chirurgical Society

Special Free Course at Boston University—Arrangements have been made for a free course in laboratory technic for nurses who are graduates of recognized hospitals in the conjoint pathologic laboratories of Boston University and the Massachusetts Homeopathic Hospital Boston The course covers one year of actual time during which large numbers of examinations are made by each student and toward the end of the course partially independent work and responsibility are provided by service in one of the smaller branch laboratories Didactic and laboratory instruction similar to that given to medical students is provided in bacteriology and immunology, including Wassermann tests, hematology, urinary analysis and preparation of tissues In addition, the students are taught to perform the various tests and technical procedures used in a general pathologic laboratory for a hospital of more than 500 beds and a class A medical school An optional three months course in roentgenray technic can be arranged in addition, also free of charge The number of students will be strictly limited in order to give each one every opportunity for advancement The hospital will provide board, room and laundry, without cost to the student and award the final certificate on completion of the course For further information apply to the Department of Pathology, Boston University, 80 East Concord Street, Boston

MICHIGAN

Academy of Surgery of Detroit—At the annual meeting held in May the following officers were elected president, Dr Max Ballin vice presidents, Drs Alexander W Blain and Charles S Kennedy, and secretary-treasurer, Dr William W Barrett Dr Cyrenus G Darling, Ann Arbor, read a paper entitled "The Importance of Early Operations"

Presentations to Medical Society—Three hundred volumes from the library of the late Dr Albert H Steinbrecker have been presented to the Wayne County Medical Society by his widow Other volumes have been given by Drs Belle Warner, Herbert M Rich and Homer E Safford——A portrait of the late Dr Theodore A McGraw has been presented to the society by his family and will be hung in the council room, together with the portrait of Dr Howard W Longyear, which was recently received

MINNESOTA

Hospital News—The board of directors of St Luke's Hospital, Duluth, have recently perfected an organization of the attending physicians and surgeons An advisory medical board of seven has been appointed and regular monthly meeting will be held at the hospital Dr John J Eklund was elected president and Dr Mark H Tibbetts, secretary, of the organization——The St Cloud Commercial Club has started a movement for the erection and maintenance of a tuberculosis sanatorium, with state aid, for the central counties of the state

Personal—Dr C Hamlin Pelton St Paul, has been appointed superintendent of the Elyria Memorial Hospital, Elyria, Ohio——Dr George E Fahr of the Medical School of the University of Minnesota Minneapolis read a paper on "The Present Status of Digitalis Therapy," at the

fifty-fourth annual meeting of the Wabash County Medical Society——Dr Philip E Stangl has recently completed a new two-story office building at St Cloud, which he will occupy with Drs Fred H Stangl and Irwin E Bowing of Chicago Dr Fred Stangl was formerly associated with the Cook County Hospital, Chicago, and Dr Bowing was roentgenologist to the Lutheran Deaconess Hospital

MISSISSIPPI

Physician Sentenced to Penitentiary—It is reported that Dr Isaac F Barnes, Gulfport physician, was sentenced in the federal court, June 27, by Judge Holmes, to serve two years in the penitentiary at Atlanta, Ga Dr Barnes was convicted on a charge of violating the Harrison Narcotic Law

MONTANA

Joint Medical Meeting—The physicians and druggists of Fergus and Judith Basin counties, held a joint meeting at Lewiston in June Every physician and druggist of Lewiston and most of the physicians and druggists of the two counties attended Another meeting will be held in the near future

NEW HAMPSHIRE

Public Health Association—At a special meeting of the house of delegates and the council of the New Hampshire State Medical Society in Concord, June 29, it was voted to sponsor a movement for the organization in the state of a public health association composed of professional men and women and interested people, for the purpose of promoting public health matters in New Hampshire The new organization will work in full cooperation with the state board of health Dr Olin West, Chicago, explained the work of the American Medical Association in his address to the meeting

NEW JERSEY

New Vaccination Order—Hundreds of pupils attending normal schools in New Jersey will be compelled to submit to a vaccination, as the result of a recent decision by the state board of education that hereafter vaccination in schools coming under the jurisdiction of the board shall be governed by the practice of the district in which the school is located The board's action was prompted by criticism of the fact that, while vaccination is required in the public schools, pupils in the state normal schools and in the affiliated practice schools are exempt

NEW YORK

Licenses Revoked—It is reported that the board of regents of the University of the State of New York has recently revoked the licenses of Solomon Rothman and Michael Di Preta, who were found guilty of violation of the Medical Practice Act Proceedings have been initiated by the board of medical examiners similarly to disqualify several others for violations of state and federal laws

New York City

Columbia University Prize Honors—Dr Edgar FahsSmith formerly provost of the University of Pennsylvania, was awarded the Chandler Gold Medal at the annual commencement of Columbia University In the School of Medicine, the Harold Lee Mierhof memorial prize was divided between Harold Alexander Abramson of New York and Samuel Harold Gray of Brooklyn

Night Clinic for Reconstruction Hospital—For the convenience of disabled workers who have been able to return to work but who still require after-care of industrial disabilities, the Reconstruction Hospital opens its outpatient department between 7 and 9 o'clock every Monday Wednesday and Friday nights This affords a much needed opportunity for continuing treatment to the partially disabled who must work during the day Dr Christopher G Smith is chief of the night clinic

New Veterans' Dispensary—The U S Veterans' Bureau is establishing a dispensary at its headquarters in the Grand Central Palace which it is claimed will be the largest and most up to date in the world It will include a complete dental clinic, complete physiotherapy and hydrotherapy outfits, the most modern roentgen-ray unit obtainable and every known facility for the speedy examination of patients The equipment will cost $200 000 and will make available to veterans every phase of medical treatment except hospitalization

OHIO

New Medical School and Veterinary Hospital—Bids have been asked for the $3,000,000 medical school, animal hospital and power house for Western Reserve University The development is part of the Lakeside Hospital group to be built on Euclid Avenue, Cleveland, from the donation by Samuel Mather

Hospital News—Delegates from Pythian lodges from all parts of the state were in Springfield for the recent dedication of the new hospital addition to the Pythian Home for the Aged which has just been completed——The contract has been awarded for the erection of a $100,000 addition to the city hospital Hamilton——The Stillwater Sanatorium near Dayton the sanatorium for Montgomery and Preble counties has just completed an addition which will be known as the Beck Memorial Building and provides accommodation for forty patients——The construction of buildings, which will care for 100 additional children and sixty adults at the Cleveland Tuberculosis Sanatorium, Warrensville, will be started August 1 This work will cost, it is estimated $295 000——Governor Davis has approved the purchase of 1 704 acres of land near Grafton for $192,493 for a site for a new institution for the feeble-minded

University News—As was announced in this column, June 24, the trustees of the Ohio State University, Columbus, decided to amalgamate the homeopathic medical school with the regular medical department and to establish two homeopathic chairs Since then the board, at a meeting, July 11, has taken further action by abolishing the chairs of homeopathic materia medica and practice of homeopathic medicine It is reported that the vote was 3 to 2 The homeopathic hospital will be taken over by the regular staff about the middle of August There is some doubt as to the disposition of the moneys held by Ohio State University for endowment of certain homeopathic activities in the university, especially the $150 000 of General Motors stock, given by Mr Kettering of Dayton It is thought that the moneys will be returned to the donors as the University of Michigan has also voted to abolish the chairs of homeopathy in the medical school The faculty of the medical college of Ohio State University will be enlarged considerably next year No appointments have yet been made

OREGON

Personal—Dr Vern L Hamilton, Coquille, was recently appointed city health officer——Dr H M Peery has been appointed secretary of the Coos and Curry Medical Society to succeed Dr Tilden T Manzer who is leaving Marshfield

Workmen's Compensation Act—The Supreme Court of Oregon has decided that according to the meaning of the workmen's compensation act of that state an occupational disease is not a personal injury by accident" and therefore is not compensable The questioned disease in this case was lead poisoning

Hospital News—The Fraternal Hospital Association recently purchased a tract of land at Astoria for $25 000 for the purpose of erecting a modern hospital building at a cost of approximately $200 000——A new hospital will be erected in North Bend at a cost of $50,000 The building will have accommodations for fifty patients

University News—Dean Richard B Dillehunt announces that the General Education Board has appropriated $113,000 for the construction of a new unit of the University of Oregon Medical School, Portland This sum was duplicated by the state legislature and the new building will be opened September 1 The total cost was $250 000 This unit will provide for extension of all the preclinical departments and for offices and laboratories for clinical departments and will enable the registration of seventy five students per class The present capacity is only sixty An additional sum of $50 000 was appropriated by the General Education Board, to become available on completion of the building The Portland City and County Medical Society and the Portland Academy of Medicine each donate $500 annually to the support of the medical school library and Dr Charles Mayo Rochester Minn this year relinquished the fund of $100 provided for an endowed lecture donating the sum to the library——The Portland Free Dispensary has been reorganized and its capacity trebled The daily attendance has increased from an average of thirty five to ninety five during the year——The Multnomah Hospital, with a capacity of 250 now being constructed on the campus of the University of Oregon will be opened to the public about December 1

RHODE ISLAND

The Fiske Fund —At the annual meeting of the Rhode Island Medical Society, June 1, no prize was awarded under the Fiske fund on the subject of "Radium Therapy" The subject selected for 1923 is 'Has Surgery Lessened the Incidence of Cancer?" A prize of $200 is offered for the best essay on this subject

SOUTH DAKOTA

Physician Loses Suit —It is reported that a jury in the circuit court at Chamberlain awarded Mrs Bessie Feltman damages of $7,500 against Dr Abner B Dunn The plaintiff instituted the suit asking damages for an alleged permanent deformity, which she charged was due to improper care on the part of the defendant It is believed that the case will be appealed

TEXAS

University News —At a recent meeting of the board of regents of the University of Texas Department of Medicine, Galveston, it was announced that only eighty students will be admitted to the medical department at the next session 1922-1923 Entrance will be based on scholarship, and preference will be accorded men and women from Texas institutions This action was made necessary by the inadequacy of the present buildings and laboratory equipment ——The first graduate course held at the University of Texas was concluded, July 1 Forty-nine physicians from widely scattered areas registered with others in attendance The course was so successful that it is expected to become an annual feature and will expand to large proportions

UTAH

University News —During the year 1921, the regents of the University of Utah School of Medicine Salt Lake City, have approved two important measures pertaining to the medical school 1 On recommendation of the medical faculty the regents have approved the proposition of limitation of students in the medical classes Beginning next year, therefore, classes in the medical school will be limited to twenty-five students 2 Recently the medical faculty recommended that the college requirements be raised from two to three years The regents approved this recommendation, and it will go into effect for the year 1924-1925

VIRGINIA

Personal —Dr Manfred Call was elected dean of the Medical College of Virginia Richmond, at the annual meeting to succeed Dr Edgar C L Miller ——Dr C E Wallace has been assigned to the Cape Charles quarantine station at Old Point Comfort, to take over the work which has been conducted for the last two and a half years by Dr Floyd C Turner, who has been transferred to Ellis Island, N Y

Chiropractor Loses Damage Suit —In a newspaper clipping from Norfolk, it is reported that damages of $5,000 for alleged malpractice, were awarded to E C Jackson by a jury in the circuit court at Portsmouth, June 30, against Hugh D Via, a chiropractor The plaintiff stated that Via promised to cure him of a "kink in his back" but that after three treatments he had to go to a hospital where his back was placed in a plaster cast Much discussion was given at the trial to the training required of chiropractors

Tuberculosis Associations Organized —During the first two weeks in June, twelve antituberculosis societies were organized in the state by the following counties Isle of Wight Southampton, Sussex, Prince George, Dinwiddie Greensville Brunswick, Nottoway, Amelia, Goochland, Charlotte and Halifax Farquier County already has a tuberculosis association, so there are now thirteen permanent county organizations to combat the disease in their respective communities Similar organizations are being formed rapidly in the remaining counties of the state

WASHINGTON

Washington Tuberculosis Association —At the annual session in Seattle, it was resolved to petition the next legislature to make Washington state eligible for funds under the Sheppard-Towner act The following officers were elected for the ensuing year president, Mrs R C McCredie, Sunnyside, first vice president Dr. Christen Quevli Tacoma, second vice president, Dr H S Brode, Walla Walla, secretary, Prof John Weinzirl, Seattle, and treasurer, Charles R Case, Seattle

WISCONSIN

Personal —Dr Arthur H Broche, formerly health officer of Oshkosh, has been elected again to that post to succeed Dr Bertha Thomson ——Dr William W Johnston has been elected health commissioner of Racine, under a plan of organization of the department of health which diverts authority in the health administration from the chief of police to the health officer ——Prof Benjamin H Schlomovitz, director of the department of physiology and pharmacology, Marquette University, Milwaukee, has resigned to become director of the laboratories of the National Soldiers' Home and Hospital now under construction in Milwaukee ——Dr William A Rauch, Eaton, has been appointed resident physician at the South View Hospital, Milwaukee

PHILIPPINE ISLANDS

Public Health News —According to a recent number of the *Monthly Bulletin* of the Philippine Public Health Service, the School of Public Health of the University of the Philippines is to be reopened A degree of doctor of public health or its equivalent will be conferred on all candidates who successfully complete the course

CANADA

New Hospital Opened —The lieutenant-governor of Ontario officially opened the Willet Hospital at Paris, Ont, July 1 A large contingent of Parisians now in Toronto presented the hospital with an operating table, Mayo rack and stool and cabinet, following the official opening

Queen's University —In the Dominion and Ontario Medical Council examinations, nine out of ten men from Queen's University Faculty of Medicine, Kingston, Ont, passed the Dominion examinations and twenty-six out of thirty-one passed the Ontario Medical Council examinations

Personal —Dr Augusta Stowe Gullen, Toronto was elected vice president for Ontario at the recent annual convention of the National Council of Women at Port Arthur —Dr Edward Charles E Camepau, St Therese, Que, who has been in active practice for more than twenty-five years has recently been ordained to the priesthood ——Dr W R Reeds, medical missionary at Honan, China, has arrived in Toronto to take a graduate course in medicine in the University of Toronto ——Dr Rowland B Orr, Toronto, has been elected president of the Ontario Historical Society ——Dr William S Todd, Hartford, Conn ex-chairman of the International Board of Examiners in Optometry, was entertained at luncheon in Toronto recently by local optometrists

GENERAL

Spencer Fullerton Baird Centenary —In response to the request of the Smithsonian Institution Washington, D C, President George E de Schweinitz, with the approval of the Executive Committee of the Board of Trustees has appointed Dr Victor C Vaughan as the American Medical Association representative on the National Committee which is to have charge of a movement to commemorate on Feb 3, 1923, the one hundredth anniversary of the birth of Spencer Fullerton Baird Professor Baird was a noted American naturalist served as assistant secretary of the Smithsonian Institution in 1850 and as secretary in 1878, and was the author of several books and almost a thousand contributions to natural science

Pacific Northwest Medical Association —At the first annual session of the Tri-State Medical Association held in Spokane, July 6 8, the following officers were elected for the ensuing year president, Dr J Earl Else Portland, Ore, first vice president, Dr Alexander Munro, Vancouver B C, second vice president Dr Joseph E Tyree, Salt Lake City, secretary-treasurer, Dr Frederick Eppler, Spokane Wash, and councilor, Dr Andrew A Matthews Spokane Dr Else served during the last year as provisional chairman at the head of the organization Among the visiting physicians who delivered lectures before the meeting were, Drs Edward C Rosenow, Rochester, Minn, Frank Billings Chicago, Wallace I Terry, San Francisco, Louis J Hirschman, Detroit, William Engelbach, St Louis, Henry A Christian Boston, Joseph C Bloodgood, Baltimore, and Alfred W Adson, Rochester, Minn

Personal —Dr Henry Hall Forbes, associate professor of diseases of the nose and throat, New York Post-Graduate Hospital, sailed for Paris, July 8, to attend the Tenth International Congress of Otology, before which he will read a

paper on the "Bronchoscopic Treatment of Lung Abscess" Later, he will attend the meeting of the British Medical Association at Glasgow, where he will read a paper before the section on laryngology on "The Use of Radium in Cancer of the Esophagus and Larynx in America"——Dr Bowman Crowell, New York, who has just returned from South America, where for the last four years he has been combating the Chagas disease in Brazil, has been appointed professor of pathology and experimental medicine at the Medical College of the State of South Carolina, Charleston——Dr Charles J Hatfield, Philadelphia, president of the American Tuberculosis Association, recently sailed on the *Finland* for Europe to attend the International Conference on Tuberculosis in Belgium——On the *Homeric* for Southampton were Drs David Riesman, Philadelphia, Arnold C Klebs, Chicago Samuel G Gant, New York, H H Fries, Frederic E Sondern, David H McAlpin Frederick Braun Henry B Epstein, Miles Farrow, Irwin H Hance, Mark J Schoenberg and Shober Smith——Dr E E Montgomery and wife Philadelphia, have gone for a trip to Alaska, to return in about two months by way of the Canadian Rockies

Counterfeit of Liquor Prescriptions—A warning has been sent out to druggists of the country by Prohibition Commissioner Haynes, declaring that the Internal Revenue Bureau has discovered new counterfeit physicians prescription blanks that are being used to obtain liquor The statement of the commissioner declared that the filing of any considerable number of these counterfeit permits by druggists may be regarded as proper grounds for the revocation of the druggists' permits Describing the difference between the genuine and the counterfeit prescription blank the commissioner said

> The counterfeit is a printed form made on paper which is cheaper and considerably lighter in color than the paper on which the genuine forms are engraved The green ink used over the entire face of the counterfeit is appreciably lighter in color than that used on the genuine form The counterfeit is also somewhat shorter than the genuine blank the latter after being detached from the stub being 6 9/16 inches in length while the similar portion of the counterfeit is barely 6½ inches long The printing on the counterfeit is much lighter in color than the genuine blank and on the counterfeit the edges of the letters and the shading is blurred On the genuine all lettering and shading is black with clear cut outlines The water marking on the counterfeit is much less distinct than on the genuine blank the details of the Treasury seal on the counterfeit being very indistinct and the word prohibition being so faint as to be hardly distinguishable The Treasury seal and the word prohibition are very plainly marked on the genuine blanks On the counterfeit the letter A printed in red ink preceding the book number is not in alignment with the figures following it the bottom of the letter A being perceptibly lower than the bottom of the figures On the genuine prescription blank the letter A is on a line with the book number

Bequests and Donations—The following bequests and donations have recently been announced

Home for old people and convalescent mothers New Orleans a trust fund of $750 000 for the endowment of such a home in memory of her father and her husband to be known as the Holmes Thomas Home by Mrs Georgine Thomas of New York

Servants for the Relief of Incurable Cancer $500 000 as a memorial to her husband Charles H Klein by the will of Mrs Mamie Klein

South Side Hospital Bay Shore N Y $250 000 by collections

Presbyterian Hospital New York $50 000 New York Orthopedic Hospital $25 000 Babies Hospital $15 000 and Woman's Hospital $10 000 by the will of Mrs Henry B Hyde

Long Beach N Y $30 000 to found a hospital by subscriptions and a site donated by the mayor

Beauvoir Soldiers Home Beauvoir Miss $15 000 donated by fifteen counties by appropriations

Bayonne Hospital Bayonne N J $9 000 to the endowment fund by the Misses Mahnken

Pennsylvania Hospital Philadelphia $5 000 for the maintenance of a free bed by the will of John A Crane

Home for Incurables Philadelphia $4 000 by the will of Daniel W Clark

U S Veterans Tuberculosis Camp Tupper Lake N Y $3 463 from the Manhattan Club of New York City

St Elizabeth Hospital Elizabeth N J one half of the residue of the estate of Mary A Reilly of Elizabeth and $2 500 from the estate of Patrick J McGuire of Plainfield N J following the death of his wife

Alice Home Hospital Lake Forest Ill $2 000 from the proceeds of a county fair

Protestant Deaconess Hospital Evansville Ind $1 000 as a memorial to Benjamin Bosse by his widow, Mrs Anna Bosse and $500 by the family of Frederick H Riechmann

Brooklyn Hebrew Orphan Asylum and Jewish Hospital of Brooklyn $1 000 each the Sydenham Hospital and the Hebrew Infant Asylum New York $500 each by the will of Benoit Wasserman

Community Hospital Hutchinson Kan $325 from the auction of three pure bred bulls presented to the hospital

Union Hospital Association New Philadelphia Ohio $200 to equip a room in the new wing by Lodge 510 B P O Elks

Dunson Hospital, La Grange Ga the library of her late husband, Dr Henry W Terrell to the physicians consulting room and library by Mrs H W Terrell

LATIN AMERICA

Rockefeller Commission in Honduras—The Rockefeller Foundation has sent a hookworm commission to Honduras One of its members, Dr D B Wilson accompanied by Dr Brizzio director of public health, has already visited several towns

Pasteur Celebration in Merida—The Merida branch of the Mexican Medical Association has decided to hold a medical contest in honor of Pasteur The prizes will consist of medals and diplomas to the local physicians who will submit the best papers on local diseases and means of control The prizes will be awarded on Dec 27, 1922, the centenary of Pasteur's birthday

Argentine Pediatric Literature—The May issue of the *Archivos Latino Americanos de Pediatria* is a volume of ninety six pages devoted entirely to the classified presentation of the titles of articles on children's diseases published in Argentina since 1916 This journal is the official organ of the Sociedad Argentina de Pediatria as also of the Sociedad de Pediatria de Montevideo The directors are Prof Arroz Alfaro and Prof L Morquio The editors in charge are Drs Iribarne and Pelfort

The University of Lima Reopens—After more than a year of suspension this important institution of learning has resumed operation although as the *Cronica Medica* remarks, the air is not quite clear even yet ' During the long suspension the university lost by death two leaders, Odriozola the rector and Prado the vice rector Dr Gastañeta has been elected to the post of dean His friends, and the university authorities and students celebrated his election with a festival meeting with moving addresses on the historic occasion of the reopening of the university

The "Prensa Medica Argentina"—This Buenos Aires exchange appears in a new form, changing as it enters its ninth year from a broad sheet like a daily to about the size of THE JOURNAL Its editorial staff contains many familiar names such as D J Cranwell M R Castex, Bonorino Udaondo Bosch Arana and Mazza, besides thirty-three others constantly appearing in medical literature It has rather specialized in the last year or so in the practical study of inherited syphilis publishing profusely illustrated observations which have thrown light in many dark corners

Mexican Committee for the Sixth Latin American Medical Congress—An organizing committee for Mexican participation in the Sixth Latin American Medical Congress has been appointed as follows honorary presidents, Drs Gabriel Malda Guillermo Pavia J Ramon Xaza and Nicolas Leon, president Dr Gregorio Mendizabal, vice president, Dr Alfonso M Pruneda treasurer Dr Joaquin G Cosio, secretary Dr Ricardo E Cicero members Drs E Avalos, A B Vasconcelos F Castillo Najera, M Cordero, G Diaz Lombardo G Esclona J Ulises de la Garza J de J Gonzalez, E Landa J M Noriega F Ocaranza F Paz, T G Perrin R Silva and D M Velez The subject assigned to Mexico is medical reciprocity in Latin America The essayist will be Dr A Pruneda secretary of the public health department In addition papers will be presented by other physicians

Personal—Dr Salvador Bermudez of Mexico has been granted a two months fellowship by the Rockefeller Foundation at the Johns Hopkins Public Health School——Dr A Esguerra Gomez professor of pathology of the University of Bogota has been appointed a member of the Radium Institute of Paris Dr Esguerra was designated by Professor Regaud to make the first applications of the radium donated by American women to Mme Curie——Dr F A Risquez one of the most prominent Venezuelan physicians celebrated April 27 1922 his forty years of university teaching——Prof Aloysio de Castro and Prof Afranio Peixoto of Rio de Janeiro have been elected corresponding members of the Academia das Sciencias of Portugal——The *Brazil-Medico* records that Dr Afranio Amaral of the Instituto de Butantan is to sail in July for the United States on a trip of inspection He will be accompanied by Dr W de Oliveira, a public health officer of Botucatu and Dr J Fragoso, sanitary inspector of Piracicaba——Prof Moraes Frias of the University of Porto is on his way to visit Brazil

FOREIGN

Prophylaxis of Diphtheria in the Netherlands—The city of Dordrecht has made arrangements for active immunization of schoolchildren against diphtheria when the parents desire

Swiss Surgical Meeting—The ninth annual meeting of the Swiss Surgical Association was held at St Gall early in

July The main subject appointed for discussion was "Constitution and Surgery, with addresses by Askanazy Vulliet and A Kocher

Social Insurance in Germany—The *Munchener medizinische Wochenschrift* warns that a small cloud is visible to the medical profession on the horizon in the recent demand of certain German housewives that the business of being a housewife should be recognized as a regular trade

Anniversary of van Swieten—Our Vienna exchanges mention that June 18 was the hundred and fiftieth anniversary of the death of Gerard van Swieten 1700-1772 He was a pupil of Boerhaave and was called from Leyden to Vienna by the Empress Maria Theresa He reorganized the entire system of medical education in Austria

A Discriminating Publication—The *Revista de Higiene y de Tuberculosis* of Valencia Spain is particular in choosing its exchanges It has published a list of papers, with which it refuses to exchange, because of their being devoted to the advertising of "patent medicines" The list follows *Le Monde Medical La Médicine Pratique, Revista de Tecnica Medica, La Medicina Internacional, Revista de Informacion Terapeutica, Clinique et Laboratoire, La Rassegna di Clinica Terapia, Boletin del Suero Cuguillere Revista de los Laboratorios Americanos* and *L'Avenir Médical*

Italian Congress of Radiology—At the fourth annual congress held in Bologna, May 9-11, under the presidency of Prof A Busi, the following officers were elected honorary president, Prof Senator O Corbino, president, Professor Bertolotti, Turin, vice president, Professor Balli, Modena, secretary-treasurer, Professor Ponzio, and chief editor of the journal of the society, Professor Perussia Milan Palermo was chosen as the place for the fifth congress to be held in October, 1923, under the presidency of Professor Scaduto Professors Ceresole, Alessandrini, Tandoia, Maraghiano, Rossi and Spagnolio were among those who read papers at the meeting

Personal—A bust of Dr E Lang, the founder of the Lupus Institute at Vienna was recently unveiled at the opening of the new carbon arc lamp hall——The Wiesbaden roentgenologist Prof Alban Kohler, has been elected an honorary member of the Spanish Society for Radiology and Electrology——Prof P Muhlens of Hamburg has been asked by the government of Jugoslavia to study and report on malaria in that country He has accepted an invitation to lecture in Barcelona in the fall on malaria, spirochetosis and affairs in Russia——The king of Spain has decorated with the Grand Cross del Merito Militar the following Belgian physicians, in token of appreciation of their services to the Spanish army training camps Dr Voncken, Dr De Block, Dr Wibin and Dr Vandermissen——At the recent annual meeting of the organized ophthalmologists of Germany, the Graefe prize was awarded to Behr of Kiel Hertel of Leipzig and Koppe of Halle——The *Ugeskrift for Læger* mentions that Prof M H E Tscherning of Copenhagen has been decorated by the government of Norway, and Drs Marner, Hempel-Jorgensen and I Hansen have been decorated by the Austrian Red Cross

Deaths in Other Countries

Dr **W Gauld**, formerly medical missionary at Swatow, China, died in London, June 14, aged 82——Dr **Archibald L McLean**, at the Royal Prince Alfred Hospital, Sydney, May 13 following a long illness——Dr **Alfred Sutton**, Surgeon, A M C, of Australia since 1900, was mentioned in dispatches four times during the late war and received several decorations, died recently at Brisbane, Australia——Dr **Jacques Bertillon**, aged 71, inventor of the finger print system of identification, which his brother adapted for practical use He had charge of the bureau of statistics at Paris, in which position his father and grandfather had preceded him——Dr **G Bayer**, director of the hospital at Hannover-Linden——Dr **G Meschieri** of Pollenza, Italian bacteriologist——The *Dermatologische Wochenschrift* mentions the death of Dr **E von Negri** of Amsterdam, known by her works on granuloma malignum, etc, and of Dr **W B Zogbaum** of Christiania, the inaugurator of the first institute in Norway for treatment with radiant energy

CORRECTION

Appointment as School Health Director in Utah—In THE JOURNAL, July 8, page 142, it was stated that Dr C C Jensen, Riverton, Utah, had been appointed as state director of health education The item should have said that C N Jensen, Ph D, state superintendent of public instruction at Salt Lake City, would hold this position

Government Services

Organization of New Reserve Units

The Surgeon-General of the Army announces the authorization of the following new units in the organized reserve General Hospital No 51 (Georgetown University School of Medicine), General Hospital No 52 (Syracuse University School of Medicine), Surgical Hospital No 15 (Italian Benevolent Institute and Hospital, New York), Evacuation Hospital No 20 (Flower Hospital Unit, New York), General Hospital No 54 (State University of Iowa College of Medicine), General Hospital No 6 (Massachusetts General Hospital Unit), General Hospital No 48 (Metropolian Hospital, Department of Public Welfare, New York), and General Hospital No 53 (St Louis University School of Medicine)

Vocational Training of Veterans

Figures just issued by the U S Veterans' Bureau show that a total of 601,515 veterans of the World War have applied for vocational training, of which number 312,930 applications have been approved In addition to the 30,000 factories and industrial organizations which are affording placement training to the 36,704 veterans, there are 3 228 institutions engaged in the work of remaking men who are disabled or partially disabled Of this number, there are 162 universities, 253 colleges, 98 state normal schools, 1,041 commercial schools, 244 public schools, and 266 institutions teaching miscellaneous subjects Of these, 49 are government institutions The number receiving instruction has almost doubled in the period from July, 1921, to May, 1922 July 1, 1921, there were 85 338 men actually taking vocational training, and on May 1, 1922, there were 108,919

Chicago U S Veterans' Bureau

The District Office at Chicago (No 8) has moved from the Leiter Building to the Butler Brothers Building The cooperation section of the administrative division occupies space on the tenth floor, approximating one half of a city block, while the district office occupies the entire eleventh floor The change was made in accordance with the general economic program now being practiced by the bureau It is estimated that between $100 000 and $150,000 a year will be saved in rental alone——Col C R Forbes, director of the U S Veterans' Bureau, made an inspection trip to District 8 recently He inspected the new offices and the new site for the $3,000 000 hospital for neuropsychiatric cases, to be established at Great Lakes He expressed himself well pleased with the morale and the conditions of the district, and addressed a communication to this effect to all of the employees of the district, thanking them for their service and cooperation

Hospital for Tuberculous Service Men

A 500-bed hospital, costing $1,500 000, for former service men suffering with tuberculosis will be erected at Tupper Lake, N Y, instead of the proposed 250-bed institution at Liberty, N Y, according to an announcement made by Acting Director Rogers of the U S Veterans' Bureau Mr Rogers also announced that the Veterans' Bureau is to turn over to the Treasury Department the sum of $750,000, to enable it to increase the capacity of the hospital to be erected at Chelsea, N Y, from 250 to 500 beds making the total cost of the Chelsea hospital $1,500,000 These projects when completed will give the New York district facilities for caring for 1,000 tuberculous patients Decision to abandon the proposed site at Liberty, N Y, it was explained by Director Rogers, was made on recommendation of the General Hospitalization Board It was found that the land there was unsuitable and the 150 acres at Tupper Lake, to be donated by the chamber of commerce of that town, was selected instead Survey of the land at Tupper Lake is already under way and bids for the construction of the new hospital will be called for shortly Assistant Secretary of the Treasury Clifford also announced that the Treasury Department had selected the Hall property at Aspinwall, Pittsburgh, as a site for a new veterans' hospital, to care for disabled ex-service men of the Pittsburgh district The institution will contain 250 beds and will cost approximately one million dollars

The Hall property consists of 145 acres overlooking the Allegheny River With the location of this hospital, the Treasury Department has completed its program for hospital construction under the act passed by Congress last year appropriating the sum of $18,600,000 Since then $35,000,000 has been appropriated by Congress the matter of its expenditure being placed in the hands of the U S Veterans' Bureau Assistant Secretary of the Treasury Clifford gave out information to the effect that the Perryville, Md, project, increasing the size of the veterans' hospital there by 300 additional beds had been completed The Bronx Hospital, New York, of 1,000 beds has been completed

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 26 1922

The Prevention of Venereal Disease

The Society for the Prevention of Venereal Disease has made a step forward and promulgated a detailed policy It takes its stand on three main principles 1 It is the duty of every good citizen to live a chaste life 2 It is the office of medical science to prevent the consequences of sexual immorality According to the Royal Commission on Venereal Diseases, the number of persons affected with syphilis, acquired or congenital, cannot fall below 10 per cent of the whole population of the large cities, and the percentage of those affected with gonorrhea must greatly exceed this The tragic fact is that the evil passes to innocent women and children 3 Venereal disease can be prevented by immediate self-disinfection, provided it is intelligently applied Self-disinfection may fail by misuse or delay, but this is no argument against its efficacy The society also insists on the obligation of seeking and testing new measures of prevention It looks with favor on all curative measures, and heartily approves of venereal clinics It teaches that instruction in the methods of self-disinfection should not be refused to males who have reached adolescence, to adult women if they desire it, or even to younger persons at the discretion of their parents or those responsible for their welfare It advocates the propagation of such knowledge as may tend to diminish venereal disease and its grave consequences by lectures and leaflets, assuming that the lectures are attended and the leaflets received only by such persons as have reached adolescence

Following this preamble the society's policy is laid down under five headings 1 To instruct the public as to (*a*) the great importance of self-disinfection at the time of exposure and (*b*) the methods of doing this 2 To give such instruction only to men above the age of 18 to adult women on demand, and to younger persons in special cases at the discretion of those responsible for their welfare 3 To insure the sale of the disinfectants required with full instructions to such persons and to such persons only 4 To convey instructions regarding the nature and application of such disinfectants to such persons (1) by leaflets supplied (*a*) with disinfectants at the time of sale and (*b*) by attendants at public conveniences on demand (2) by lectures, (3) by medical officers of venereal clinics (4) by officers or officials in charge of naval, military and industrial units 5 To advocate such further steps for the prevention of venereal disease as may from time to time be deemed advisable by the executive committee

Medical Society for the Study of Venereal Diseases

A meeting has been held in London at which it was decided to form a medical society for the study of venereal diseases The chairman, Dr David Watson of Glasgow, stated that those engaged in venereal work had expressed a desire for a society in which these diseases would receive due consideration A constitution was adopted and it was agreed that, subject to the approval of the council, local divisions of the society may be formed The question of the publication of a journal was remitted to the council for consideration The officers elected to act until the first general annual meeting, to be held in July, were president, Dr David Watson, Glasgow vice presidents, Dr Wilfred Fox and Mr F S Kidd, London committee, Dr Mary Liston, Edinburgh, Mr D Vinrace Dr D Wyndham Powell and Col L W Harrison, London, secretary and treasurer, Mr E R T Clarkson, London

Protest Against a Medical Play

An English version of Baron Rothschild's play "Le Caducee' is to be produced in London It may be remembered that the principal character is a fashionable surgeon who is a scoundrel He performs unnecessary operations from which patients sometimes die, and he divides the fees with obscure physicians He invites newspaper representatives and photographers to his operations in order that they may advertise him The *British Medical Journal* has made a protest against the play It holds that "the whole atmosphere of the play is distasteful to any one to whom the honor of the medical profession has a meaning at all, besides being grossly untrue to life It has also been pointed out in the press by a physician that anything that tends to lower a patient's confidence in medical advice when an operation is necessary is to be deplored as the sick require all the moral support that can be obtained On the other hand, Dr Arthur Bourchier, who is producing the play and taking the role of the surgeon, declares that there are black sheep in every flock and that the play represents the black sheep as he works in Paris and no doubt, in London He fails to see why the public should not be warned against such villains As Baron Henri de Rothschild is a physician, he knows what he is writing about Mr Bourchier added that a special performance had been arranged in aid of the funds of Guy's Hospital

Protection of the Race Against Multiplication of Mentally Defective

Mental deficiency is hereditary and those who suffer from it are prolific more prolific than the general public, as the moral and economic restraints which diminish fecundity do not come into play Their multiplication is not only a burden to the community but tends to deteriorate the race In a series of articles, this evil has been discussed in the *Morning Post*, and the suggestion of Sir Archdall Reid, that all mental defectives should be sterilized and thus rendered incapable of propagation is recommended A correspondence in which many well known persons joined shows that public opinion in this country is not ripe for such a remedy In the United States legislation has gone to the extent of permitting compulsory sterilization but it is not employed The patient is consulted or if his mental powers do not allow this the question is submitted to his relatives

Dr A F Tredgold a well-known expert on mental deficiency points out that segregation is just as efficient as sterilization and has other advantages All mental defectives are incapable of maintaining existence and at the same time conforming to the laws of the community without some amount of control, either for their own protection or the protection of others Many spread venereal disease and many commit crimes Hence a considerable proportion should be detained in institutions even if they are sterilized Dr Tredgold states that there are thousands of defectives in this country who either for their own sakes or for that of the public should be in institutions and the failure to provide

accommodation on the ground of economy is an extremely short-sighted policy He does not consider it possible to apply sterilization to all grades of mental defectives without risk of including nondefectives In the case of idiots and imbeciles, diagnosis is easy, and such risk does not exist But these classes comprise less than one fourth of the total number of defectives Many of them are naturally sterile and therefore do not need the operation The great danger of propagation arises in the class of the feebleminded, to which fully three quarters of all defectives belong and which is highly prolific

Diagnosis in these cases may be very difficult During the unstable period of adolescence, there are many varieties of mental abnormality, readily confused with defect, which are often temporary and amenable to treatment There is, moreover, a very large class, known as "border-landers," who occupy a position between defectives and normal persons While considering sterilization justifiable and advisable in particular cases of defect, Dr Tredgold points out that it does not remove the necessity for segregation and institutional care in a large proportion of cases

PARIS

(From Our Regular Correspondent)

June 23, 1922

Cancer in France

More than half of Volume 5 of the new Traite de Medecine, recently published under the supervision of Profs G H Roger, F Widal and P J Teissier by Masson et Cie, is devoted to the study of cancer The authors, G Roussy, associate professor of the faculty of medicine of Paris, and Maurice Wolf former head of the department of pathologic anatomy of the faculty of medicine of Strasbourg, discuss our present knowledge of cancer from various standpoints biologic, anatomicopathologic, clinical, experimental and therapeutic To this Roussy and Wolf have added an interesting chapter on cancer viewed from a social standpoint, including statistics and information concerning the campaign against cancer as it is organized in various countries It is interesting to note what has been done in France along these lines

CANCER STATISTICS IN FRANCE

Roussy and Wolf begin by stating that the French are not fond of statistics, and that few statistics are published in France as compared with America, England and Germany, where statistical researches occupy an important place in medical science Whatever may be their value, the official statistics furnished by the ministry of the interior concerning mortality due to cancer in France from 1906 to 1916 are here presented

NUMBER AND PROPORTION OF INHABITANTS DYING FROM CANCER

	Total Number of Deaths			Proportion per Thousand Inhabitants		
	Communes			Communes		
Year	Cities of 5 000 or More	of Less than 5 000	Total for All France	Cities of 5 000 or More	of Less Than 5 000	Total for All France
1906	14 339	12 967	27 306	1 00	0 52	0 70
1907	14 381	14 900	29 284	0 99	0 60	0 75
1908	14 757	15 367	30 124	1 01	0 62	0 76
1909	14 907	15 738	30 645	1 01	0 63	0 77
1910	15 256	16 047	31 303	1 02	0 65	0 79
1911	15 897	15 871	31 768	1 04	0 65	0 80
1912	15 979	15 894	31 873	1 05	0 65	0 80
1913	16 429	16 405	32 834	1 08	0 67	0 83
1914	14 202	12 274	26 476			
1915	13 971	10 596	24 367			
1916	14 407	10 920	25 327			

Large cities have, as a rule, a greater cancer mortality than small cities Thus, in 1913, the proportion of deaths due to cancer per thousand inhabitants was cities of from 100,001 to 551,000, 1 20, 30,001 to 100,000, 1 17, 20,001 to 30,000 1 07, 10,001 to 20 000, 1 05, and 5,000 to 10,000, 0 79 The percentages of deaths from all causes due to cancer in France were 1906, 3 51, 1907, 3 69, 1908, 4 05, 1909, 4 06, 1910, 4 41, 1911, 4 10, 1912, 4 60, 1913, 4 67, 1914, 3 82, 1915, 3 85, and 1916, 4 27

Present Status of the Campaign Against Cancer

With the beginning of the twentieth century, the campaign against cancer received a new impulse, which became manifest in France, England and the United States at approximately the same time Dr Roussy, who was entrusted with a scientific mission to America (THE JOURNAL, Jan 7?, 1921, p 257) lauds 'the spirit of organization and method prevailing in the United States" which has made possible the creation, in New York, Chicago, Boston, Buffalo, St Louis and other cities of many hospitals, institutes and laboratories admirably organized for the study of cancer "In France,' Roussy and Wolf state, "we must frankly admit that we have been left far behind" It is only during the last few years that the movement in favor of the campaign against cancer began to materialize The department of public welfare of Paris opened cancer services at the Brevannes and the Salpetriere hospitals, but these services lack resources and equipment The general council of the department of the Seine made the necessary appropriation in 1921 for the creation of a service for the treatment of cancer in the Paul-Brousse Hospital at Villejuif This service was placed under the direction of Dr Roussy, and opened in October, 1921 The municipal council of Paris showed its interest in the movement by purchasing 2 gm of radium and by instructing the department of public welfare to organize in its hospitals centers for the treatment of tumors with radium and roentgen rays Two of these services are in operation at present at the Hotel-Dieu and at the Tenon Hospital The Radium Institute of the University of Paris, annexed to the Sorbonne, comprises a physical laboratory in charge of Madame Curie, and a biologic laboratory in charge of Regaud This laboratory comprises a department of physics (roentgen rays and radium), a department of pathologic anatomy (histology, biopsy), and an experimental and therapeutic department (roentgen rays and radium) The Radium Institute has also a collection of anatomic specimens and a library To the institute is annexed a patients' service in the Pasteur Hospital with consultation for outpatients We must also mention two associations for the study of cancer One, the Association française pour l'etude du cancer, founded in 1908 by Prof Pierre Delbet is above all, a scientific society publishing a monthly bulletin in which appear works pertaining to cancer The other association was founded during the war by Professor Hartmann, and is called the Ligue franco-americaine contre le cancer It deals especially with the sociological aspects of the campaign again cancer I have mentioned in previous letters various forms of its activity

Table Utensils and Contagious Diseases

Table utensils play an important role in the diffusion of contagious diseases, and I recently mentioned the poor conditions under which washing of glassware is done in restaurants (THE JOURNAL, March 4, 1922, p 666) Drs Dejust, Wibaux and L Dardel recently presented an interesting communication concerning pathogenic bacteria on table utensils and the best methods of disinfection They studied the conditions under which a glass article can be rid of bacteria by the use of running water, by running water plus rubbing or by the use of a soap solution, these methods being followed or not by drying with a cloth This research disclosed the slight efficacy of washing with water even when it is accom-

pumed by rubbing Of thirty articles of glassware soiled by cultures of *Bacillus prodigiosus* and washed with water without being wiped, twenty-two were still infected with the bacilli On the other hand, of twenty-four such articles washed in the same way but wiped, only five remained infected Of six articles washed with a 2 per cent soap solution without being wiped, five presented the bacilli, while of twenty-two articles washed with a 2 per cent soap solution, followed by wiping, none showed *B prodigiosus* The influence of drying with a cloth is obvious, especially when it follows washing with soap

The Physical Reeducation Centers

The army recruiting bill contains an innovation which is being sharply criticized Criticism is directed against the "reeducation centers" established for young men who are neither accepted for service nor exempted but are referred to another examination later The postponement is based on their lack of physical development owing to defective living conditions, or unhygienic surroundings, or the fact that their physical condition, while temporarily below par, owing to a recent illness, appears susceptible of rapid improvement The committee on hygiene of the chamber of deputies considers this innovation open to criticism Monsieur Justin Godart, chairman of the committee and former undersecretary of state of the sanitary service, stated that these reeducation centers are to receive convalescents and weakly young men who have been brought up in a poor environment But how, in practice, can we distinguish between these two classes of young men? If their condition must be the result of "defective living conditions or unhygienic surroundings," inquiry must be made concerning their home environment and their surroundings at work As regards convalescents, it would probably be preferable to let them remain at home instead of transplanting them, while at their lowest point of resistance, to a collective mode of existence, which always entails a critical period of adaptation and presents dangers of contamination Thus, the committee on hygiene of the chamber of deputies opposed the creation of these reeducation centers as dangerous and likely to entail unnecessary expense since their purpose would be to complete regimental ranks rather than to fill an urgent need Dr Sabatier, medical inspector in chief, with the rank of brigadier general, is also of the opinion that the army is not qualified to undertake to give to underdeveloped young men as a class the physical development required to make them fit As there would be many young men of delicate constitution to deal with, it is to be feared that the reeducation centers would not accomplish their purpose and would unless carefully supervised, entail the care of many patients, and many pensions and deaths

Proprietaries and the Academy of Medicine

I mentioned recently the protest of the *Journal des Praticiens* based on the fact that certain communications presented to the Academy of Medicine, while seemingly of a scientific character, in reality served as an advertisement for new pharmaceutic specialties (THE JOURNAL June 3 1922 p 1735) A recent occurrence supports their contention The *Bulletin de l'Academie de Médecine* of March 28 contains a communication by Dr E Doumer professor in the medical department of the University of Lille, concerning the good results secured from the use of paper compresses impregnated with a mixture of a certain acid and paraffin in the treatment of rheumatism and gout Immediately Paris physicians received a reprint of the article contained in the *Bulletin* together with a circular giving the address of the manufacturer of the compresses, the price per package etc The *Journal des Praticiens* remarks in an editorial 'It is impossible to imagine a more shameless use for commercial purposes of a supposedly scientific communication, and a more flagrant attempt to derive a commercial advantage from the prestige of the Academy of Medicine" The *Journal des Praticiens* requests a modification of the academy's rules, so that a communication concerning a new remedy must first be submitted to a committee, which would take all necessary precautions to inquire into the subject If presentation of the communication is authorized, the author would be requested not to abuse the authority "and thus transform the Academy of Medicine into a sort of broker's office to help the sale of a pharmaceutic specialty"

Award of Hanbury Gold Medal to Professor Perrot

The Hanbury gold medal has been awarded to Prof Emile Perrot professor of the faculty of pharmacy of Paris, for his works on medicinal plants and materia medica in general This medal commemorates the works of the famous English naturalist and is awarded every two years to promote and reward original researches in the chemistry and natural history of drugs

New Genito-Urinary Journal

The first number of a new medical journal entitled *Archives des Maladies des Reins et des Organes Genito-Urinaires* has just been published This publication is under the direction of Prof L Ambard of Strasbourg and Dr E Papin of Paris, and will appear in volumes of 128 pages, six times a year (G Doin publisher, 8 Place de l'Odeon, Paris) The first number contains a study by Papin and Ambard on the innervation of the kidneys, an article by Pasteau on the treatment of traumatic stricture of the ureter, another by Verhac on the value of laboratory research applied to diagnosis of tuberculosis of the kidney, and an essay by Ambard and Lux on diabetes insipidus The first number is devoted to original articles, but the publishers intend to put the reader in touch in the following numbers, with all the works concerning the kidneys and genito-urinary organs, and to give an extensive bibliography, as well as general reviews and clinical, therapeutic and technical laboratory data of interest to urologists

Tribute to Cajal

Prof Ramon y Cajal of Madrid has been granted an honorary degree by the council of Bordeaux University

VIENNA

(From Our Regular Correspondent)

June 23, 1922

Convention of the German Gynecologic Society at Innsbruck

The third Austrian university town, Innsbruck was selected by the German Gynecologic Society as a meeting place for its yearly convention at this time Owing to the pressure of time—it lasted only three days, June 8-11—and to the hardships of travel in central Europe little attention was paid to purely social activities, more earnest work being the aim Surgeons from northern Europe, Switzerland, Japan, Jugoslavia and America were present More than 208 papers were presented, exceeding the number read at any previous meeting of the society The young men were in the majority at the convention because the older men were unfitted for the hardships attending the journey and the overcrowded conditions of the city Thus, their ripe opinion had to be foregone. The papers were divided under four heads treatment of cancer by actinic methods (radium or roentgen rays) the mechanism of labor internal secretion and the treatment of infection following abortion At the convention in Halle nine years ago radiotherapy seemed to promise a new era in the problem of cancer of the genital organs, but at this year's meeting the high expectations met with disappointment Professor Bumm of Berlin pointed out that

the results obtained by a number of competent observers have shown clearly that, in selected cases, a permanent cure can be obtained by means of radiotherapy alone or in combination with surgery, but it is far from being a cure for more than a modest percentage of cases An interesting addition to the instrumentarium of the radiologist is an invention by three Innsbruck physicians, demonstrated at the congress, which employs the spectroscope of the roentgen rays to measure their intensity Thus, a simple and effective control of the dosage is obtained In the second group of papers, Dr Warnekros of Berlin challenged the teaching of Sellheim of Halle He had studied the different phases of labor, as well as the conditions during the last weeks of pregnancy, by roentgenograms, and he attributed a liberal share of the work necessary for the expulsion of the fetus to energy stored in the joints and ligaments of the pelvis However, the majority of those present favored Sellheim's theory

The problem of internal secretions was discussed in a number of papers, Halban, Aschner, Fellner and Hofmann contributing to the discussion No new point of view was brought out The correlation between ovary and thyroid, ovary and pituitary gland, and the corpus luteum and the uterine mucous membranes formed the subject of some interesting papers by clinical assistants At present, the situation is best termed as being still "in statu nascendi," in spite of the amount of knowledge accumulated within the last ten years Much time was taken up by the discussion of the treatment of puerperal sepsis (infection following abortion) and the justification of interruption of pregnancy Early surgical interference together with vaccine treatment was urgently recommended, while a number of men, including Dr Menge of Heidelberg and Dr Kupferberg of Mayence, were strongly opposed to the lenient or, as it was termed, unlawful attitude of the practitioner toward destruction of fetal life It may, however, be added here that at present there is an inclination among the legislators of Central Europe to make the interruption of pregnancy a legitimate procedure in many more or less suitable cases

Besides these four groups of papers, several interesting papers were read, among them one by Novak of Vienna on parthenogenetic generation in rats, by Werner on tuberculosis of the female organs and by Graff on the use of oxygen to inflate the tubes and control their permeability Thaler has succeeded in establishing regular periods in several cases of amenorrhea, with the aid of a weak (irritative) dose of roentgen rays Zacherl's (Graz) results in treating myomatous growths with radium are very encouraging Marked interest was evoked by the cinematographic methods of teaching used now in Vienna Professor Weibel presented his films, one showing the exact details of an operation for cancer of the uterus (Wertheim's operation) Another one showed the development of the human ovum and its fertilization, as demonstrated in the students' classes here Professor Frankl presented his models of human and animal embryos from the very earliest stages Dr Kogerer read a paper on posthypnotic painless childbirth, which caused quite a heated discussion The next convention is to meet at Heidelberg

Austrian Professors Lecturing Abroad

In the last year, several professors of Vienna University have been invited to lecture at foreign universities as a recognition of the high esteem of the standard of research in this city Dr Lorenz, who visited the United States, met more or less marked opposition Others, for example, Fuchs, have met only adherents Fuchs lectured in Spain and South America and is now in the United States Professor Haber lectured in Spain, on modern surgery, while Frankl, the gynecologic researcher, went to Dublin Professor Ruttin, the otologist, well known to many men studying in Vienna in the Allgemeines Krankenhaus, lectured in Holland and others are called to Roumania and Warsaw A series of exchanges has been arranged between German and Austrian universities and students also will profit by frequent exchanges Here the minor German universities chiefly are under consideration, and it is expected that such arrangements will bring about uniform methods of scientific instruction in these countries

The Relative Frequency of Progressive Paralysis in Vienna in the Last Twenty Years

Professor Pilcz, working in the statistical office of the ministry of health, and in the clinic for mental diseases of Vienna, has undertaken the task of ascertaining whether the condition known as progressive paralysis is increasing Several authors have answered this question in the affirmative, and it is rather difficult to weigh such statements simply by considering the case histories It must not be forgotten that the relative frequency of such cases in the hospitals for the insane depends on the kind and number of patients housed in such institutions altogether Thus, Kraepelin says that care must be exercised in giving the diagnosis, as well as the incidence, of syphilitic infections per se, before conclusions as to an increase or decrease can be reached Professor Pilcz has examined the records of the Vienna hospitals for the insane since 1902, and has computed the number of cases of progressive paralysis in proportion to the number of lunatics admitted, also to the entire population, and furthermore to those of the ages of from 30 to 50 years, and in respect to sex incidence He found that, while, in 1902, out of 794 770 males and 906,000 females living in Vienna 683 males and 510 females were admitted, among whom were 217 and sixty-seven, respectively, classed as suffering from progressive paralysis (273 and seventy-four, respectively, per 10 000 of the entire population), in 1912, the figures were 978,655 males and 1,093,000 females, with about 388 cases of males and 114 of females diagnosed as progressive paralysis admitted to the asylums, or 396 and 104 per 10,000 In 1921 the figures were 851,302 males 990 024 females, with 224 and eighty-seven cases, respectively, or 263 and 87 per 10,000 His investigations tend to show that, for about fifteen years, a constant, well marked drop in the relative incidence of these patients is noticeable, being most evident in the years 1920 and 1921 This subsidence appears even more marked in persons of from 30 to 50 Here the percentage of progressive paralysis among all insane patients dropped from 1,536 per 10 000 for males in 1910 to 789 in 1921, and from 359 to 260 for females The years of the war show a variation as the number of mentally defective is very high, and the number of those suffering from progressive paralysis is relatively low The conditions are nearly the same among the rural population as far as could be ascertained by the case histories, so that the working of the same factors may be assumed It appears that, in Vienna at least, a marked drop in the number of cases of general paralysis of the insane is evident The explanation cannot be sought in more efficient diagnosis, it is possible that the "genus morbi" has changed, just as the character of syphilis has changed within the last few years, and that fewer syphilitics fall victims to progressive paralysis for unknown reasons Thus, for instance, Mattauschek could show that out of 617 officers of the Austrian army treated for syphilis in the five years from 1884 to 1889, sixty or 7 72 per cent, developed progressive paralysis, but of 1,139 officers treated from 1894 to 1899, only thirty-seven, or 3 25 per cent, suffered in the same way Perhaps the low figures for 1920 and 1921 are the result of the malarial treatment of large parts of the populations instituted a short time ago, when many soldiers suffered from malaria and

syphilis in combination Professor Pilcz has renewed and continued investigations of these problems every ten years in order to clear up this riddle

BUENOS AIRES

(From Our Regular Correspondent)

May 21, 1922

Medical Congresses

The organizing committee of the Sixth Latin American Medical Congress, which will be held at Havana in November, has appointed the following Argentine committee Drs M Castex, E B Demarta, D Cabred, S Mazza, A Sacco, J Ingenieros, P Chutro, B A Houssay, D Cranwell, C Jacob, M Acuña, F Iribarne, H Caretti, A. Oyenard, J Llambias, C Bonorino Udaondo, M V Quiroza, G Bosch Arana, F Rosenbusch, J A Dominguez and J Arce

The Second National Medical Congress will be held in October The subject which will be discussed by all the sections is "Echinococcus Disease"

More Quarantine Stations

The national government has already equipped properly the two quarantine stations at Jujuy and La Rioja In addition, two disinfecting stations have been equipped at Chilecito and Olata Another quarantine station will be soon established at San Luis, a special building being constructed for this purpose

Importance of the Suprarenal Medulla

Drs Houssay and Lewis have kept alive fifteen dogs deprived of the whole left suprarenal medulla and the right suprarenal capsule These animals lived perfectly without showing asthenia, decreased tension or any other trouble, but as soon as the remaining suprarenal cortex was removed, the dogs died, in from twenty-two to twenty-six hours These experiments show that the existence of the cortex is necessary to life but the medulla does not fill any essential role In all cases, serial tissue examinations were made

Smallpox

The smallpox epidemic still persists in the province of Cordoba, where many of the inhabitants are opposing vaccination, which is precisely contrary to conditions on the coast The disease has appeared at Zapala and Minas (Neuquen), and near the Chilean border

New Hospitals

The new buildings for the Misericordia and San Juan de Dios hospitals, at La Plata, have been officially dedicated The Misericordia Hospital is connected with the Policlinico, where a radium institute for cancer has just been established The Policlinico Hospital is now cooperating with the La Plata Medical School

Medical Schools

At the Buenos Aires Medical School Dr Julio Iribarne was unanimously elected dean Dr Iribarne is a young assistant professor who has shown himself very active in reform movement in the last few years The new budget carries larger appropriations and it is intended to enlarge some courses, reduce the number of pupils (5 000) and increase the salaries of professors It is expected the proposed changes will benefit both teaching and research work

At Cordoba, the student strike has just been called off

Prof George F Nicolai, from Germany, who has been engaged to teach physiology, has just arrived Dr Nicolai, whose pacifist views gained him much publicity during the war, became known for his research work in physiology of the heart and electrocardiography, although of late he has been doing clinical work

At the Rosario Medical School, an attempted strike has just failed The students became incensed at the government for appointing directly the first directing board of the school and the dean

Tribute to Dr Lorentz

The societies of public health and biology have rendered a public tribute to the memory of the late Dr Emilio Lorentz Although his death was untimely, he had already distinguished himself as a competent and painstaking research worker Together with Dr I Aphatie, he discovered, after Ghedini and before Weinberg, the reaction of complement fixation for the diagnosis of echinococcus disease, besides carrying out several immunologic (Wassermann test) and bacteriologic investigations He was the director of the army laboratory

BERLIN

(From Our Regular Correspondent)

June 24, 1922

Retirement of Professor Rubner

Rubner the physiologist, of the University of Berlin, having completed his sixty-eighth year, will be retired from his position, October 1, under the old age pension act Rubner has been an instructor in the University of Berlin since 1891 The professorial chair that was created for and by Robert Koch was held by him only a few years One reason for this was that there were many fields of hygiene in which he took no particular interest, then, again, he did not find in the imparting of instruction the pleasure that some men do Consequently, Rubner—a pupil of Voit and Ludwig—who had already won a reputation by his excellent work in the field of physiology pertaining to nutrition, was appointed to take his place As a result of his previous training, the predominant factor and the main interest of Rubner's work lay in the domain of physiology Therefore, after the death of the physicist Engelmann, he was glad of the opportunity that thus arose of securing the chair of physiology in Berlin His transfer from one chair to another has another point of interest, since at the suggestion and under the direction of Rubner a new hygienic institute was built But when Rubner changed chairs, he also changed institutes, so that the old hygienic institute which had formerly, under du Bois-Reymond been established as the physiologic institute, was placed at the disposal of Flugge, who succeeded Rubner It will doubtless be remembered by some that when Rubner was called to succeed du Bois-Reymond, it caused some public excitement, not only on account of prospective buildings and equipment but also because of personal considerations Hermann Munk who at that time was professor of physiology at the Tierarztliche Hochschule in Berlin, was recognized as having a strong claim on the chair It is still uncertain who will become Rubner's successor The Halle physiologist Abderhalden would seem to deserve first consideration, and perhaps Hober, who occupies in Kiel the chair of physical medicine, may be in line

Scurvy in Germany

In addition to the cases of scurvy reported in a previous letter, a number of others have arisen Professor Umber director of the Charlottenburg Hospital, recently presented a number of patients at a meeting of the Berlin Medical Society He stated that not only had the subject of scurvy never been discussed before the Berlin Medical Society, as far as he knew since the sixties but that he himself, during his long practice extending over many decades had but recently seen the first scurvy patients (seven severe cases since the first of January) Others reported their observations on scurvy in Berlin and other large German cities All were agreed that the cases were due to lack of fresh vegetables and the consequent deficiency in vitamins in the diet

Umber stated that he had brought about a rapid recovery of the patients by prescribing a decoction of pine needles This remedy was first proposed by a Swedish military surgeon, who applied it during the expedition of Charles XII to Russia The needles are pounded with a pestle, and a "tea" is made from them

State Institute for the Study of Efficiency Engineering and Industrial Hygiene

A recognition of the importance of industrial psychology, which, owing to the influence of propaganda from America, is coming to the front here more and more, is the underlying factor that has induced the head committee of the Prussian legislature to adopt unanimously the suggestion of the minister of public welfare that a state institute for the study of labor problems and industrial hygiene be created The need of applying psychologic principles to all industries was discussed at length, and special reference was made to the excellent results secured in America by the introduction of a practical system of psychology—more particularly, the Taylor system The Greater Berlin Street Railway Company, by training motormen in accordance with modern psychologic, scientific principles, effected a saving of 12,000,000 marks for the last fiscal year, while the number of accidents was also materially decreased With greater efficiency, a saving of 10 per cent in the amount of electric current required was brought about, and the wear and tear on the rolling stock and the roadbed was distinctly reduced Another great gain lay in the fact that with the application of scientific, psychologic principles the motormen and conductors could be trained for the work in one third the time formerly required

Marriages

HERBERT FAY HEMPSTEAD JONES to Miss Edna Marie Penick, both of Little Rock, Ark, June 15

J HOWARD VAN NESS to Miss Elizabeth Maentz, both of Allegan, Mich, at Battle Creek, June 15

MERLIN JONES STONE, Ogden, Utah, to Miss Corynne Constance Wall of Temple, Texas, July 8

JAMES RUSSELL YOUNG, JR, Rexburg, Idaho to Miss Eve English of Pocatello, Idaho, recently

ELLSWORTH JOHNSON, Windom, Minn, to Mrs Carolyn H Clark of St Cloud, Minn, in June

LEO JOSEPH STARRY, Oklahoma City, to Miss Maree Patch of Colorado Springs, Colo, June 21

WILLIAM H SPEITH, Indianapolis, to Miss Viva Pearl Wilson of Roachdale, Ind, June 25

ELMER HARRY HANSEN, Minneapolis, to Miss Mary E O'Brien of Cloquet, Minn, in June

LOUIS CHARLES LEHR Washington, D C, to Mrs Eleanor Moale Hillen of Baltimore, July 1

BURTIS E GOLDBERG to Miss Helen Cleave Anderson, both of Arlington, N J, June 29

ALFRED H BUDGE, Boise, Idaho, to Miss Bernice Rickert of Waterloo, Iowa, June 30

GEORGE STARR WHITE, Los Angeles, to Miss Deborah Logan of Oxnard, Calif, recently

THOMAS H MORRIS to Miss Ruth Compton, both of Plainfield, N J, June 6, 1922

ALBERT G PETERS Pontiac, Ill, to Miss Evelyn Cole of Decatur Ill June 17

WILLIAM F CLEVENGER to Miss Louise M Weaver, both of Indianapolis, July 5

ATTILIO ROBERTIELLO, New York, to Miss Eleonora Candela of Brooklyn, July 5

LEON S SEIDLER to Miss Edith Freudenberg, both of Chicago, July 2

ROY SEXTON to Mrs Mary Harvey, both of Streator, Ill, July 3

Deaths

Edmund James Armstrong Rogers ⊕ Denver, McGill University Faculty of Medicine, Montreal, 1881, L R C P and L R C S, Edinburgh Scotland, 1881, formerly a civil engineer, emeritus professor of surgery at the University of Colorado, surgeon to St Luke's Hospital and the Colorado Sanitarium, served three terms on the state board of health governor of the Colorado Society of Colonial Wars, 1900, president of the Colorado State Medical Society, 1903-1904 member of the British Medical Association and the American Climatological Society, died, July 3, aged 70

William John Maroney ⊕ New York, Yale University School of Medicine, New Haven, Conn, 1890, member of the New York Obstetrical Society, formerly assistant professor of obstetrics at the Fordham University School of Medicine, on the staffs of St Ann's Maternity Hospital, the New York Foundling Hospital and St Vincent's Hospital of the City of New York, where he died, July 10, aged 49, following an operation for perforated diverticulum of the sigmoid

Gaylor Joel Pettit ⊕ New York, New York Homeopathic Medical College and Hospital, New York, 1896, U S Naval Reserve Corps, in charge of the naval hospital at Portsmouth, Va, during the World War, died of strangulation caused by abscess of the larynx, on board the U S S *St Paul*, of which he was ship surgeon, at Hamburg, Germany, June 21, aged 55

George Eaton Simpson ⊕ Howard, R I, Medical School of Maine, Portland, 1899, member of the American Medico-Psychological Association and the New England Society of Psychiatry, for sixteen years assistant superintendent of the State Hospital for Mental Diseases, died, July 9, aged 41, following a long illness

Calvin Pratt, Bridgewater, Mass, Medical School of Harvard University, Boston, 1866, member of the Massachusetts Medical Society, Civil War veteran, formerly president of the board of trustees of the Bridgewater Academy, and consulting physician of the Bridgewater State Farm, died, June 17, aged 78, from heart disease

David Michael Roudabush, Williamsport Pa, Hahnemann Medical College and Hospital of Philadelphia, 1906, member of the Medical Society of the State of Pennsylvania, aged 42, was electrocuted, July 3, when he accidentally picked up a live wire in the cellar of his home

Lucian Nicholson, Paris, Texas Chicago College of Medicine and Surgery Chicago, 1915, member of the State Medical Association of Texas, on the staff of the Sanitarium of Paris, city health officer, died, May 4, aged 33, from multiple abscesses of the lungs

William James Wanless, Shangli-Miraj, India, University of the City of New York 1889, formerly of Toronto, medical missionary for the Board of Foreign Missions of the Presbyterian Church in the United States, died recently in India, aged 56

Charles Adams Gray, Hinsdale, N H, Bellevue Hospital Medical College, New York, 1869, member of the New Hampshire Medical Society and formerly president of the Connecticut River Valley Medical Association, died, April 27 aged 75

William Thomas Jamison, Los Banos, Calif, Barnes Medical College, St Louis, 1897, member of the Medical Society of the State of California, died, June 27, aged 51, at the St Francis Hospital, San Francisco, from chronic interstitial nephritis

William Richard Jackson ⊕ Mobile, Ala, Medical College of Alabama, Tuscaloosa, Ala, 1888, member of the staff of the City Hospital formerly professor of surgery at University of Alabama School of Medicine, died suddenly, July 3, aged 58

Jacob Irving Roe ⊕ Wilkes-Barre, Pa Medical Department of Columbia College, New York, 1875, on the staff of the Wilkes-Barre Hospital, died, July 2 aged 67, at the Pennsylvania Hospital, from bronchial pneumonia

Eben Stedman Cox, Galveston, Texas, Louisville Medical College, Louisville Ky, 1884, member of the State Medical Association of Texas, for twenty years health officer of Galveston County, died suddenly, June 24, aged 63

⊕ Indicates Fellow of the American Medical Association

William L Dunn, Glade Spring, Va , Medical College of Virginia, Richmond, Va, 1863, member of the Medical Society of Virginia, Confederate veteran, died, June 26, aged 82, following a long illness

William Henry Merry, Lynn, Mass , Medical Department, University of Louisville, Louisville Ky, 1876, surgeon captain with the British Naval and Military Veterans' Association of Massachusetts, died, June 27, aged 71

Adrian C Karsten, Horicon, Wis , Wisconsin College of Physicians and Surgeons, Milwaukee, 1897, member of the State Medical Society of Wisconsin, died suddenly, July 1, aged 56, from cerebral hemorrhage

Waldo Percy Goff, Clarksburg, W Va , Jefferson Medical College, Philadelphia, 1894, member of the West Virginia State Medical Association, died suddenly, July 3, aged 51, from heart disease

William Henry Grotthouse, Columbus, Ohio, Miami Medical College, Cincinnati, 1893, member of the Columbus Academy of Medicine, also a druggist, died, June 30, aged 53 from carcinoma

Stephen Longstroth Richards ⊕ Salt Lake City, Utah, Ensworth Medical College, St Joseph, 1893, on the staff of the Latter Day Saints' Hospital, died, July 5, aged 68, following a long illness

Robert Stewart, Chicago, Rush Medical College, Chicago, 1895, on the staff of St Bernard's Hospital, died, July 13 aged 58 at the Wesley Memorial Hospital, from tumor of the brain

Robert Cushman Flagg, Middlebury, Vt , University of Vermont College of Medicine, Burlington, Vt, 1906, member of the Vermont State Medical Society, died, July 1, aged 44

Alexander Kemp De Jarnette ⊕ Sheridan, Wyo , University of Louisville Medical Department, Louisville, Ky, 1916, died, June 4, aged 32, at Colorado Springs, Colo

Matthew Henry Ellis ⊕ Albany, Ore , University of Michigan Medical School, Ann Arbor, 1879, veteran of the Spanish-American War, died, May 31, aged 64

Roscius Morse, Estacada, Ore , University of Buffalo Department of Medicine, 1907, died, May 11, aged 46, at St Vincent's Hospital, Portland

William V Hall, Denton, Texas, Medical Department of the University of Tennesse, Nashville, 1884, Confederate veteran, died, June 21, aged 82

Thomas Joseph Francis Cox ⊕ Sacramento Calif , Medical Department, University of California, San Francisco, 1896, died suddenly, July 5, aged 49

John Thomas Frawley, Perry, Ohio, Cleveland University of Medicine and Surgery, Cleveland, 1896, died, June 7, aged 54, from pneumonia

Albert Benjamin Herrick, San Diego, Calif , University of Michigan Medical School, Ann Arbor, 1879, died, June 28, aged 70, at Santa Rosa

Jesse O Davy, Springfield, Ohio, Medical College of Ohio, 1869, member of the Ohio State Medical Association, died, June 23, aged 71

Charles A Groff ⊕ Philadelphia, Jefferson Medical College, Philadelphia, 1875, died, July 3, aged 75, from disease of the liver

Otto Henry Rohde, Los Angeles, Eclectic Medical College of the City of New York, 1896, died, June 24, aged 76, at Hollywood

Thomas C Craig, Easton, Kan , Medical College of Virginia, Richmond, Va , 1867, Confederate veteran, died, June 29, aged 78

James C Sharp, Alma, Ark , Medical Department University of Tennessee, Nashville, Tenn, 1892, died July 7, aged 53

Lawrence Whiteford Nettles, Camden S C , College of Physicians and Surgeons, Baltimore, 1885, died, June 26, aged 69

Abner B Everitt, Toledo, Ohio, Medical Department of Western Reserve University, Cleveland 1883, died, July 3, aged 75

William Dillon, Urbana, Ill , Medical College of Ohio, Cincinnati, 1882, died, July 4, aged 72, following a long illness

Wellman Calvin Blake, Bellingham Mass , Dartmouth Medical School, Hanover, N H , 1884, died, June 27, aged 63

Broer Rollo Johnson ⊕ Cadillac, Mich , Rush Medical College Chicago, 1920, died, July 8, aged 27

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

HAELEPRON TABLETS NOT ADMITTED TO N N R

Report of the Council on Pharmacy and Chemistry

The Council has adopted the following report declaring Haelepron Tablets inadmissible to New and Nonofficial Remedies W A PUCKNER, Secretary

Haelepron Tablets are made by Bodenstein and Gaslinsky, Berlin, Germany, and sold in the United States by the Haelepron Sales Co, New York The following nonquantitative statement of the composition of Haelepron Tablets appears on the trade package

Haemaglobin Lecithin Calc Lact. Protein vegetab Ferr sacch Ferr pyrophos

A similar statement appears in the advertising except that here the preparation is said to contain "Protein animal and vegetable" and instead of one calcium salt, "Calc Lact," and two iron salts, "Ferr sacch, Ferr pyrophos," being claimed the presence of two calcium salts, "calcium lactate" and "calcium saccharate," and one iron salt, "pyrophosphate of iron," is declared

In the information sent the Council, the following report of an analysis of Haelepron Tablets is given

Water 8 86 Nitrogen (Protein) 48 10 Ether Extract (Fat) 7 08 Mineral Salts (calcium lactate saccharate Pyrophosphate of Iron) 10 61 Cellulose 1 93 Extractive substance (non nitrogenous and not cellulo e) 23 42

In the circular it is claimed 'The Protein substances are chiefly blood albumin (Haemoglobin) besides the proteids of Milk, Egg and certain plants And the mineral residue consists altogether of a variety of lime and iron salts" According to the Haelepron Sales Co, this indefinite mixture is Indicated whenever nutrition impaired, in nervous conditions and dysemias" The indiscriminate use of the tablets is suggested by the declaration that they are "tolerated by everyone" and their use does not "interfere with other medicines taken simultaneously"

The Council finds Haelepron Tablets inadmissible to New and Nonofficial Remedies because (1) their composition is indefinite and semi-secret, (2) the recommendations for their indiscriminate use are unwarranted, (3) the name is not descriptive of their composition and (4) they are an irrational and useless combination which can have little if any effect on the conditions for which they are recommended

PLATT'S CHLORIDES DECEPTION OR IGNORANCE?

An advertisement for Platt's Chlorides calls attention to the fact that chlorin antiseptics are at present in favor The statement is then made that "chlorid of lime" is perhaps the best known of the older chlorin antiseptics To quote

As prepared and combined (with other related salts) under the name of Platt s Chlorides it [chlorid of lime '] has served well for years for disinfection purposes about the house Platt s Chlorides is still the choice of a great *many discriminate [Sic!]* people and is to be found in homes and in hospitals *everywhere* In fact with our present appreciation of chlorin this preparation is sure to win more friends than ever before

Chlorid of lime" is an unscientific name for calcium hypochlorite or chlorinated lime (the pharmacopeia gives it as a synonym for *calx chlorinata*) An analysis of Platt s Chlorides made several years ago in the A M A Chemical Laboratory failed to show any active (free) chlorin derivative True chlorids were present, but chlorin in the negatively

charged (combined) form as in chlorid (Cl^-) is not known to have any germicidal effects, it is active only when it is in a positively charged form as in the free state ($^-Cl^-Cl^+$) or in hypochlorites and derivatives (HO^-Cl^+) A recent specimen of Platt's Chlorides has also been tested for hypochlorites The chemical laboratory again reports the absence of active chlorin (Cl^+) compounds, further it points out that hypochlorite could not be present as the product contains considerable iodid which would be incompatible with hypochlorite

The question naturally arises Is this misinformation concerning Platt's Chlorides a case of deception or is it merely ignorance due to the fact that the household phrase "chlorid of lime" resembles the name calcium chlorid, the latter being present in Platt's Chlorides? The evidence points to deception because the label on the bottle states (in accordance with the requirement of the federal law) that calcium chlorid in Platt's Chlorides is *inert* material!

Platt's Chlorides has been the subject of previous reports The Council on Pharmacy and Chemistry declared it "inadmissible to New and Nonofficial Remedies because its composition is uncertain and indefinite and because the claims made for it are exaggerated and misleading"

Correspondence

NUTRITION IN RICKETS

To the Editor —Dr A F Hess, in his Cutter Lecture at Harvard a few weeks ago, remarked that "advance in our knowledge of rachitis promises to be greater during this decade than through the preceding 250 years" He asserts that the dietary deficiencies play a very significant part in the etiology of rachitis

A number of years ago, when I was connected with the West End Children's Hospital and Dispensary, Boston, we were having a large number of rachitic children in our daily clinics, a majority of them from among the colored population The superintendent, Dr H C Haven, informed me that he had made quite an exhaustive study of rachitis with especial reference to the causes of the disease, and he came to the conclusion at that time that environment, lack of sunlight and fresh air were the probable causes He stated that among the colored in Africa, in a climate to which they are adapted, there are no cases of rachitis

Three winters later while in the South, I studied the children of that warm climate who were in the fresh air and sunshine practically the year around, and I failed to find a case of rachitis among them I have no doubt that with a properly regulated diet with plenty of sunlight and fresh air, we have the best treatment for rachitis extant Surely sunlight is the enemy of disease

C S SCOFIELD, M D, Richford, Vt

"A PRACTICAL TROCAR AND CANNULA FOR REMOVING ASCITIC FLUID"

To the Editor —I have just read with interest the article contributed by Dr William W Duke (THE JOURNAL, July 8 p 134) in which he describes and illustrates an improved trocar and cannula He concludes his article by saying, "The advantages of this cannula would appear to offset its only disadvantage, slightly increased cost" This quotation impels me to write of an improvement I had made in a cannula about fifteen years ago, and following somewhat the lines of Dr Duke's instrument, but which can be had at practically no added cost to the instrument in common use

Two oval openings near the end of the cannula were made corresponding to the size of the inlet, and perfectly smooth, so that they could not interfere with the entrance of the trocar into the cavity to be drained To avoid weakening the lumen of the cannula, these openings were not placed opposite each other, or on the same level

When the cannula is in place, there is a continuous flow of the fluid until complete evacuation is accomplished

Dr Duke's instrument has, however, a distinct advantage in its added length, which affords a wider range of usefulness

J HARRIS PIERPONT, M D, Pensacola, Fla

"THE ALLEGED INSUSCEPTIBILITY TO INTOXICATION BY POISON IVY"

To the Editor —In THE JOURNAL, July 15, is a current comment in which the statement is made that, "contrary to the theory of 'desensitization' by internal administration of tincture of rhus, it appears that the susceptibility may be increased with successive intoxications"

The question of desensitization by internal administration of the tincture of the drug is unrelated to the question of increasing susceptibility to successive external exposure to the plant It is to be regretted that destructive criticism of the treatment by desensitization should be published without adequate clinical testimony, for many patients may, as a result, be deprived of the value of this treatment

In October, 1919, I published a short paper in THE JOURNAL on "Desensitization of Persons Against Ivy Poison" Since that time I have treated in the neighborhood of fifty patients who were susceptible to ivy poison, and most of whom were subject to yearly attacks In not a single patient has ivy poison developed since, when the treatment was carried out prior to exposure, in a number of cases the patient escaped an attack of ivy poisoning during the season when the medicine was taken, but was attacked the following season when the medicine was omitted

In my opinion, it is possible in practically all persons to prevent attacks of rhus dermatitis by taking, internally, ascending doses of a 1 per cent solution of the tincture, beginning with a drop, well diluted, and increasing to sixty drops a day The uniform success that I have observed with this treatment convinces me absolutely that persons can be desensitized during the period of administration of the drug, and usually for about a month after the cessation thereof

JAY FRANK SCHAMBERG, M D, Philadelphia

POSTGRADUATE STUDY IN VIENNA

To the Editor —The American Medical Association of Vienna wishes to announce the restoration of friendly understanding between their organization and the teaching-body of the University of Vienna A committee elected by the association, after an investigation of charges of discrimination against Americans, which were reported by members of our association, finds that these charges could not be substantiated

We further wish to state that, through the efforts of our committee, working with a like committee from the teaching body, sufficient numbers of book courses in English in all branches may be had at prices of from $3 to $5 an hour for the group taking such courses

JOHN J GELZ, M D,
BERNARD KAUFMAN, M D,
WILLIAM WILSON M D Vienna

Public Health in Spain —In a recent lecture, Dr Cesar Juarros, the Madrid neurologist, discussed sanitary conditions in Spain Tuberculosis has shown an increase in its mortality from 7,700 in 1911, to 8,200 in 1915, 9 800 in 1920 Typhoid fever showed a similar increase from 4,500 in 1911, to 5,100 in 1915, and 6,998 in 1920 A similar situation prevails as regards malaria and smallpox

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and addre s but these will be omitted on request

BLOOD TRANSFUSION

To the Editor —In the last examination of the National Board of Medical Examiners the following question was included Explain the dangers of transfusing an incompatible blood, and tell how you would determine whether or not the blood of A is compatible with that of B so that A s blood could be safely transfused into B

Plea e give an answer to this question and omit my name if published in THE JOURNAL G W H

ANSWER —The chief danger of transfusing an incompatible blood is based on the possibility that the blood transfused may contain iso agglutinins or isohemolysins for the blood of the recipient or that the blood of the recipient may contain bodies which agglutinate or hemolyze the cells of the donor's blood It is clear, therefore, that a donor should be chosen for the transfusion whose blood shows no interagglutination or hemolysis with the patient's serum and corpuscles If such a donor cannot be found, it is safer, as Kolmer states to use a person whose serum is agglutinative toward the patient s cells than one whose cells are agglutinated by the patient's serum Should an incompatible blood be transfused it is evident that agglutination may lead to the formation of emboli and thrombi, while the intravascular hemolysis may be associated with marked hemoglobinemia hemoglobinuria and an intense anemia of the pernicious type

A further danger to be considered in transfusion is the possibility of transmitting syphilis by this procedure Hence, the blood of the donor selected should have given several negative Wassermann tests

For the determination of compatibility of the blood of A with that of B, 2 or 3 c c of the blood of A is obtained by the usual serologic method, and 0 5 c c placed at once in a centrifuge tube containing 5 c c of a 1 per cent solution of sodium citrate in physiologic sodium chlorid solution The remainder of this blood is placed in a small, dry test tube, and the serum is allowed to separate From B (the recipient) 3 or 4 c c of blood is obtained in the same manner, and the same procedure is followed with this blood as with that of A (the donor)

The sodium citrate tubes are centrifuged, the supernatant fluid is pipetted off and the cells are washed again with physiologic sodium chlorid solution This procedure is repeated if necessary in order to free the cells from every trace of serum After the final washing enough physiologic sodium chlorid solution is added to the cells to make a total volume of 5 c c

The serum tubes are centrifuged and the clear serum is separated This serum should be clear, and show no trace of hemolysis The following series of tests should then be set up, the small serologic test tubes being used

1 Four drops of A s (donor s) serum plus 1 drop of B s red cell emulsion
2 Four drops of B s (recipient s) serum plus 1 drop of A s red cell emulsion
3 Control Four drops of A s serum plus 1 drop of A s red cell emulsion
4 Control Four drops of B s serum plus 1 drop of B s red cell emulsion
5 Control One drop of A s red cell emulsion plus 4 drops of physiologic sodium chlorid solution
6 Control One drop of B s red cell emulsion plus 4 drops of physiologic sodium chlorid solution

One cubic centimeter of physiologic sodium chlorid solution is added to each tube and the tubes are shaken and placed in the incubator for two hours being inspected about every half hour Agglutination in Tubes 1 and 2 may be recognized macroscopically by the clumping of the red cells Hemolysis is noted as in the Wassermann test If there is any question about hemolysis, let the tubes stand in the icebox over night Tubes 3, 4 5 and 6 should show neither agglutination nor hemolysis In the interpretation of this test, if there is no reaction (agglutination or hemolysis) in Tubes 1 and 2 then the blood of A is compatible with that of B and may safely be used for the transfusion

A quicker and less elaborate method for determining the compatibility of the blood of A is that of Minot From a prick in the finger or ear, 9 drops of blood from B and 1 drop from A are collected and allowed to fall into a small test tube containing 3 or 4 drops of a 1 5 per cent sodium citrate solution in physiologic sodium chlorid solution In another tube, containing the same amount of the sodium citrate solution, 9 drops of blood from A and 1 drop from B are collected The blood in each tube is mixed by shaking the tubes and allowing them to stand for fifteen minutes At the end of this time, the two tubes are examined for agglutination by means of the microscope

OXALIC ACID IN FOOD

To the Editor —What foods contain calcium oxalate?

J R SCOTT M D Nonkanahwa N Y

ANSWER —Calcium oxalate is the usual form in which oxalic acid appears in the diet The amount of oxalic acid in different articles of food in parts per thousand, as determined by Esbach is

Black tea infused five minutes	2 060
Cocoa powder	3 520 to 4 500
Pepper	3 250
Coffee	0 127
Parsley	0 006
Common beans	0 158
Potatoes	0 046
Good bread	0 047
Crust	0 130
Buckwheat flour	0 171
Barleymeal	0 039
Maize flour	0 033
Sorrel	2 740 to 3 650
Spinach	1 910 to 3 270
Rhubarb	2 466
Brussels sprouts	0 020
Cauliflower	0 003
Beetroot	0 390
Tomatoes	0 002 to 0 052
Carrots	0 027
Chicory	0 103
Endive	0 017
Lettuce	0 016
Dried figs	0.270
Currants	0 130
Prunes	0 120
Gooseberries	0 070
Plums	0 070
Raspberries	0 062
Oranges	0 030
Lemons	0 030
Cherries	0 025
Strawberries	0 012

BACHELET ELECTRO MAGNETIC THERAPEUTIC WAVE GENERATOR

To the Editor —I am enclosing a mass of wonderfully attractive literature on the Bachelet Electro-Magnetic Therapeutic Wave Generator Although declared to be radioactive the pamphlet states that any physician may use the Bachelet without fear of injury to himself or his patient That this last statement is quite true I do not doubt but it seems inconsistent with the manufacturer s claims of radioactivity In fact it seems to me that the manufacturer is treading perilously near the path that leads to federal fraud orders debarring him from the use of the mails

The enclosed literature should make wonderful mental pabulum for the layman and pseudoscientific physician with a leaning toward questionable practices but I would like to hear from you as to its real value—if it has any which I doubt

JOHN H SCHAEFER M D Clovis Calif

ANSWER —So far as one can judge from the advertising matter and literature, the 'Bachelet Electro-Magnetic Therapeutic Wave Generators, Radio-Active' device (price, from $50 to $350) is simply a form of induced current Aside from the psychic effect of the apparatus, it is hard to see why results from it would be any more beneficial than those obtained from a small faradic coil costing about $5 Essentially, the only results obtained from the faradic induced current are two first a stimulation of the peripheral circulation, second muscle contraction when the lower motor neuron is intact The claims made for the 'Bachelet Electro-Magnetic Therapeutic Wave Generators Radio-Active' make one wonder whether this concern has had its literature written by a copy-writer trained in the "patent medicine' school of advertising

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA Juneau Sept 5 Sec Dr Harry C DeVighne Juneau
NEW HAMPSHIRE Concord Sept 7 8 Sec Dr Charles Duncan, Concord

California February Examination

Dr Charles B Pinkham, secretary, California State Board of Medical Examiners, reports the oral and written examination held at Los Angeles, Feb 13, 1922 The examination covered 9 subjects and included 90 questions An average of 75 per cent was required to pass Of the 64 candidates who took the physicians and surgeons' examination, 33, including 13 osteopaths, passed, and 31, including 14 osteopaths, failed Of the 15 candidates who took the drugless practitioners' examination, 7 passed and 8 failed One candidate took the examination for chiropody and passed One hundred and nineteen candidates were licensed by reciprocity Eight candidates were licensed on government credentials Six candidates received osteopathic certificates by reciprocity Six candidates received drugless certificates by reciprocity Of the 3 candidates who took the test of competence, 1 passed and 2 failed Two candidates were licensed to practice midwifery The following colleges were represented

College	Year Grad	Per Cent
PASSED		
College of Physicians and Surgeons Los Angeles	(1921)	82 1
Stanford University	(1922) 87 2 87 2	90 8
University of California	(1921)	*
Northwestern University	(1918)	75 6
Rush Medical College	(1921)	90 3
Johns Hopkins University	(1921)	91 6
University of Michigan Medical School	(1907)	82 2
University of Minnesota	(1922) 86 8	87 3
University of Nebraska	(1921)	86 5
University of Cincinnati	(1921) 79 9	85 2
Jefferson Medical College	(1919)	76 5
University of Pennsylvania	(1919)	85 6
McGill University	(1920)	89 2
University of Toronto	(1909)	84 8
Royal College of Surgeons, England	(1909)	78 4
University of Zurich	(1921)†	81
Osteopaths 75 75 75 75 75 6 75 8 76 80 81 82, 83 3 83 4		80 3,
FAILED		
California Medical College	(1905)	37
College of Physicians and Surgeons Los Angeles	(1920)	66 9
College of Physicians and Surgeons San Francisco	(1918)	62 9
Medical College of Indiana	(1894)	70
College of Physicians and Surgeons Keokuk	(1895)	67
Keokuk Medical College	(1891)	*
University of Louisville Medical Department	(1905)	*
Detroit College of Medicine and Surgery	(1905)	42
Saginaw Valley Medical College	(1903)	*
Hahnemann Medical College of the Kansas City Univ	(1902)	65
St. Louis College of Physicians and Surgeons	(1888)	54
Toledo Medical College	(1898)	60
University of Cincinnati	(1921)	62 3
Jefferson Medical College	(1900)	64
Dallas Medical College	(1903)	49
Nagasaki Special Medical School	(1918)†	67 7
University of Moscow	(1909)†	71 5
Osteopaths 60 5 63 63 1 63 7 63 8 65 8 66 5 67 2 67 3 70 70 7 70 7 70 8 *		

College	Year Grad	Reciprocity with
LICENSED BY RECIPROCITY		
Denver and Gross College of Medicine	(1910)	Colorado
University of Colorado (1911) Colorado	(1913)	Ohio
Yale University	(1907)	Mass
George Washington University (1906) Wyoming	(1908)	Dist Colum
Atlanta Medical College	(1914)	S Carolina
American Medical Missionary College	(1900)	Tennessee
Bennett College of Eclectic Medicine and Surgery	(1907)	Iowa
Bennett Medical College	(1912)	Illinois
Chicago College of Medicine and Surgery	(1915)	Illinois
Chicago Homeopathic Medical College	(1894)	Idaho
College of Physicians and Surgeons Chicago (1906) (1908) Illinois	(1905)	Wisconsin
Hahnemann Medical College and Hospital of Chicago (1894)	(1900)	Illinois
Jenner Medical College (1906) Illinois	(1917)	Washington
Northwestern University (1892) Illinois (1906) (1908) Illinois (1909) Indiana (1910) Illinois (1914) Minnesota	(1904)	N Dakota
Rush Medical College (1890) Iowa (1894) (1899) Maine (1901) N Dakota Washington (1904) Idaho Illinois (1907) Texas (1910) Illinois	(1896)	S Dakota
University of Illinois (1916) Illinois Washington		
Central College of Phys and Surgs Indianapolis	(1901)	Iowa
Indiana University	(1909)	Indiana
Medical College of Indiana	(1905)	Indiana
Drake University (1891)	(1904)	Iowa
Sioux City College of Medicine	(1896)	Iowa
State University of Iowa College of Med (1888) (1906) Washington	(1901)	Iowa
Louisville Medical College	(1905)	Illinois
Louisville National Medical College	(1908)	Kansas
University of Louisville Medical Department	(1913)	Kentucky
Tulane University (1891) Tennessee	(1920)	Louisiana
Baltimore Medical College (1897) New York Ohio	(1904)	Oregon
Johns Hopkins University	(1908)	Minnesota
University of Maryland	(1883)	New Jersey
Harvard University (1897) Oregon,	(1917)	Mass.
Tufts College Medical School	(1897)	Mass
Detroit College of Med and Surg (1889) Colorado	(1902)	Washington
University of Michigan Medical School 1896) Idaho (1902) Michigan Washington (1908) Pennsylvania (1909) Oregon	(1869)	Illinois
University of Minnesota (1909)	(1921)	Minnesota
Ensworth Medical College	(1910)	Nebraska
Kansas City Medical College (1898) Illinois	(1904)	Kansas
St Louis College of Physicians and Surgeons	(1898)	Georgia
St Louis Univ School of Med (1916) Missouri	(1918)	Colorado
Univ Med College of Kansas City (1901) Colorado	(1903)	Arizona
John A Creighton Med College (1902) Nebraska	(1907)	Utah
Lincoln Medical College	(1897)	Nebraska
University of Nebraska (1905),	(1909)	Nebraska
Bellevue Hospital Medical College (1887) Montana	(1898)	Minnesota
Columbia University (1900) (1909) New York	(1919)	Alaska
Long Island College Hospital	(1890)	Arizona
New York Homeopathic Medical College and Flower Hospital	(1914)	New York
Eclectic Medical Institute	(1891)	Nevada
Medical College of Ohio (1891) South Dakota	(1901)	Ohio
Starling Medical College (1904) Michigan	(1906)	Ohio
University of Oregon	(1916)	Oregon
Hahnemann Medical College and Hospital of Philadelphia (1909) Minnesota	(1912)	Penna
Jefferson Medical Coll (1888) New Jersey (1908) Oregon		Washington
Medico Chirurgical College of Pennsylvania	(1897)	Penna
University of Pennsylvania	(1919)	Hawaii
University of Pittsburgh	(1919)	Penna
Western Pennsylvania Medical College	(1904)	Penna.
Woman's Med Coll of Pennsylvania (1915) Ohio	(1893)	Utah
Meharry Medical College (1907) (1912) Georgia	(1917)	Arkansas
University of Tennessee	(1914)	Texas
Vanderbilt University	(1913)	New York
University of Texas (1919) Oklahoma	(1920)	Texas
Marquette University	(1919)	Oregon
Milwaukee Medical College	(1903)	N Dakota
University of Manitoba	(1893)	N Dakota
University of Toronto	(1884)	Penna
Western University	(1915)	Minnesota
Osteopaths Indiana (1), Michigan (1) Missouri (3) Oregon (10)		

College	Year Grad	Endorsement with
ENDORSEMENT OF CREDENTIALS		
Hahnemann Medical College of the Pacific	(1918)	U S Army
Columbian University Medical Department	(1904)	U S Navy
George Washington University	(1913)	U S Army
Bennett Medical College	(1915)	U S Army
Rush Medical College	(1911)	U S Navy
Baltimore Medical College	(1913)	U S Navy
Johns Hopkins University	(1912 2)	U S Navy

* No grade given
† Graduation not verified

Arkansas May Examination

Dr J W Walker, secretary, Arkansas State Board of Medical Examiners, reports the written examination held at Little Rock May 9-10, 1922 The examination covered 12 subjects and included 120 questions An average of 75 per cent was required to pass Five candidates were examined all of whom passed The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
College of Physicians and Surgeons Little Rock	(1910)	79 7
University of Arkansas	(1911)	77 1
Tulane University	(1921) 76 7	84 6
University of Tennessee	(1922)	94 2

Dr Walker also reports that from Nov 9, 1921 to May 10, 1922, eighteen candidates were licensed by reciprocity The following colleges were represented

College	Year Grad	Reciprocity with
LICENSED BY RECIPROCITY		
Birmingham Medical College	(1914)	Alabama
Hahnemann Medical College and Hosp of Chicago	(1907)	Illinois
Northwestern University	(1920)	Illinois
University of Louisville Medical Department	(1921)	Kentucky
University of Minnesota	(1921)	Minnesota
Marion Sims Medical College	(1892)	Kansas
Missouri Medical College	(1885)	Texas
National University of Arts and Sciences	(1916)	Missouri
St Louis University School of Medicine	(1916)	Missouri
Washington University	(1919)	Missouri
Omaha University	(1901)	Nebraska
Memphis Hospital Medical College (1903) (1910) Louisiana (1912) Missouri (1913) Tennessee	(1907)	Mississippi
Vanderbilt University	(1921)	Tennessee
University of Tennessee	(1916)	Mississippi

Book Notices

THE PATHOLOGICAL GALL BLADDER ROENTGENOLOGICALLY CONSIDERED By Arial W George, M D and Ralph D Leonard A B, M D Annals of Roentgenology, Volume II Cloth Price $10 net Pp 198 with 137 illustrations New York Paul B Hoeber, 1922

The authors of this atlas on roentgenologic studies of the gallbladder are too well known to those acquainted with medical literature to require any introduction It would be surprising, therefore, if the reader were not brought in contact with the best there is to be had on this particular subject One must marvel at the splendid technic that enables the collaborators to depict in such a clear and unmistakable way pathologic conditions which have been verified time after time by exploratory operation The text is in English, French and German The print, paper and reproductions are excellent Emphasis is laid on the careful preparation of the patient for examination and a description of the technic is given A statement of the approximate amount of amperage is omitted The authors recommend a high milliamperage with a medium focus radiator type of tube The latter tubes, however, for the purpose of conservation, are restricted to 30 milliamperes Hence a more explicit statement at this point might be desirable What would appear to be especially interesting is the subject of indirect evidence of disease of the gallbladder So well known are the difficulties underlying the differential diagnosis of diseases of the gallbladder from duodenal ulcer that any technic, whether clinical or laboratory, that aids in solving this trouble would be widely welcomed by all Not every one can be a Leonard or a George, but every one can profit by their experience A study of their technic and results will be of great help to the physician in his daily struggle with this baffling problem

UEBER DIE ALTERSSCHATZUNG BEI MENSCHEN Akademische Antritts rede bei der Uebernahme der Professor fur innere Medizin in Erlangen Von L R Muller Direktor der Medizinischen Klinik in Erlangen Paper Price 132 marks Pp 62 with 87 illustrations Berlin Julius Springer 1922

Probably the most valuable feature of this little book is the illustrations showing the appearances of the human body at various ages It is emphasized that, at present, only general estimates can be made of the age of human beings by the study of the bodily conditions No scheme has been devised by which one can evaluate correctly the varying influences of the many different factors that determine the rate of senescence The book should be of special value to insurance examiners and others who are concerned with the determination of the expectancy of life

PATHOLOGISCHE HISTOLOGIE Ein Unterrichtskurs fur Studierende und Aerzte Von Dr Max Borst O O Professor der Allgemeinen Pathologie und der Pathologischen Anatomie an der Universitat Munchen Paper Price 250 marks Pp 371 with 238 illustrations Leipsic F C W Vogel, 1922

In this excellent book the author presents a beautifully illustrated description of the pathologic histology of the principal diseases based on the experience of twenty-five years in giving courses to medical students The book should prove a reliable and useful guide to the study of pathologic histology The illustrations merit a word of special praise All are drawn by W Freytag in Wurzburg from original preparations most of them in colors They represent a noteworthy artistic and technical achievement

ANLEITUNGEN ZU DEN PRAPARIERUBUNGEN AN DER MENSCHLICHEN LEICHE Von Georg Ruge O O Professor der Anatomie und Direktor der Anatom Anstalt in Zurich Fifth edition by Dr med Walther Felix O O Professor der Anatomie und Direktor der Anatom Anstalt in Zurich Cloth Price 15o mark Pp 724 with 267 illustrations Leipsic Wilhelm Engelmann 1921

The value of this work is in the highly essential correlation of the technical minutiae of the study of human anatomy in the dissecting room with that in the larger textbooks and atlases, aiming to guide the student in correct methods of orderly dissection and exposure The book, including the covers, is just a little more than ar inch thick, notwithstanding the large number of pages, an accomplishment in book making which other publishers should imitate

Miscellany

VACCINATION IN THE PHILIPPINES

The statement made by the antivaccinationists that vaccination has proved a failure in the Philippines as a means of preventing smallpox is the exact opposite of the facts This is conclusively shown in an authoritative statement in the current number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by Dr Victor G Heiser, consultant in health to the Governor General of the Philippines, and Dr Charles N Leach of Manila It is true that lately there was a large increase of deaths from smallpox in the Philippines, coincidentally with a nominal existence of public vaccination, but this apparent revival of smallpox is shown to have followed a widespread neglect of vaccination

Previous to the American occupation of the Philippines there were 40 000 deaths a year from smallpox in the islands When the Americans introduced compulsory vaccination the disease disappeared wherever vaccination was applied The death rate from smallpox in the provinces surrounding Manila fell from 6,000 annually to not one For seven years prior to 1914 there was not one death from smallpox in the city of Manila Then laxity began to prevail, and it is proved that the local officials began to report vaccinations where none or very few had taken place Vaccination is under any circumstances a difficult matter in Philippine country districts The average temperature is from 90 to 100 degrees all the year round Ordinary vaccine remains potent only a few days without ice, and outside of the cities it is impossible to procure ice This condition of things prevented the universal application of vaccination in the Philippine country districts, with the result that in these districts the disease was kept alive Finally it was discovered that while in one province the officials, with cheerful enthusiasm, reported 50,000 more vaccinations than there were inhabitants in the province, the vaccine virus was found to have been thrown into waste-paper baskets and other receptacles of rubbish This condition of things was exposed, active vaccination was resumed, and the islands are again almost free of smallpox

It was upon the temporary revival of smallpox consequent upon the neglect described, intentional in some cases and unavoidable in others, that the antivaccinationists based the claim, which they are still making, of the "failure of vaccination in the Philippines" The simple fact is that, in the recent smallpox epidemic, 93 per cent of the deaths were shown to have occurred among the unvaccinated As matters now stand, vaccination is proceeding on a better scale than ever, for methods have been discovered for making vaccine that will remain potent under tropical conditions

If in spite of this renewal of the protection afforded the prevalence of smallpox should continue, there might be some claim for the assertion that 'vaccination is a failure in the Philippines' As a matter of fact, the resumption of active vaccination has already terminated the epidemic What Dr Heiser and Dr Leach say about the matter appears perfectly true, namely, that those who have advocated the abolition of vaccination have been the cause of many of the deaths among the unvaccinated, and in view of the frightful loss of life that may occur in smallpox epidemics they are assuming a grave responsibility indeed if they continue their campaign" —Editorial, *Boston Evening Transcript*

Treatment of Insomnia.—There is no specific for insomnia The underlying cause must be ascertained and removed before a cure can be expected Even then the ability to sleep often needs to be wooed back There is an art in making yourself comfortable and also an art in procuring pleasant dreams— *Nation's Health* 4 212 (April) 1922

Medicolegal

Courts Selecting Physicians to Make Examinations

(Landis v Wichita Railroad & Light Co (Kan) 203 Pac R 1109)

The Supreme Court of Kansas, in affirming a judgment in favor of the plaintiff in this personal injury case, says that, just before the impaneling of the jury, the defendant's attorneys asked the trial court to appoint two or three physicians of its own choosing to examine the plaintiff The plaintiff being willing to be examined by two physicians chosen by the defendant, the court refused to make any selection on its own account The defendant complained of this refusal, arguing that the report of an examination would have carried more weight with the jury if made by persons selected by the court Merely to illustrate the difference of opinion on the subject, and without approving the doctrine, it may be mentioned that a statute requiring the court to select expert medical witnesses to testify in murder cases has been held unconstitutional, in part, at least, because of the very fact that the jury would be likely to give exceptional credence to their testimony, the court saying

> The expert witnesses provided for by this section testify under a sanction which gives to their testimony practically the same weight as if it were delivered by the court itself and if that testimony being against the accused were either wilfully or ignorantly mistaken its baneful results would be appalling To give to the testimony of a witness or witnesses this extraordinary certificate of candor ability and truthfulness while the other testimony in the case must be judged by ordinary standards is to subvert the very foundations of justice (*People v Dickerson* 164 Mich 148 129 N W 199)

The Supreme Court of Kansas has held that, in some circumstances, the trial court has discretionary power to appoint physicians to make an examination of a person whose condition is in controversy, but, if a refusal to do so can ever amount to an abuse of discretion, the court finds no basis for holding such to have been the case here In other words, it is held here that no abuse of discretion is shown in the refusal of the trial court to select physicians to examine a plaintiff the extent of whose injuries was in issue, the plaintiff being willing to be examined by physicians chosen by the defendant

A Bequest for Teaching Medicine Held Void as Against Public Policy

(In re Hill's Estate (Wash) 204 Pac R 1055)

The Supreme Court of Washington says that this action was brought for the purpose of testing the validity of a paragraph of the will of one S G Hill, deceased In that paragraph, the testator directed the trustee named in the will to invest the residue of the estate in bonds and apply the income in perpetuity after deducting the expense of handling the trust, in order to pay for the services of a competent homeopathic physician or physicians, who should give instruction at or near some reputable homeopathic school of medicine in the United States, to demonstrate to students the effectiveness of homeopathic remedies and treatment in cases of chronic diseases, the physician presenting these lectures and clinics to use as textbooks and confine the instruction to the proposition, principles and methods laid down in Hahnemann's "Organon of the Art of Healing,' "The Nature of Chronic Diseases (Hahnemann's), and J T Kent's "Lectures on Homeopathic Philosophy,' and should also be required to teach his students the use and application of Kent's 'Repertory of Homeopathic Materia Medica" Further provision was made to the end that there should be no subversion or distortion of the instruction and information which the testator wished to become available to such students in medicine as might desire to receive the same

On the trial there was testimony by physicians who practiced according to the methods and principles of the allopathic school, and also those who practiced according to the principles and methods of the homeopathic school Disregarding entirely the testimony of the allopathic physicians, and looking only to the evidence of those testifying who belonged to the homeopathic school, the great weight of the evidence sustained the finding or conclusion of the trial court that, if the books mentioned were taught without subversion or distortion, it would lead to sickness and death, and would deprive ailing persons from receiving treatment which is recognized by the modern homeopathic school It might be said that the evidence almost conclusively established that fact The evidence showed that, since the books mentioned were written, there had been a large development in medical science as practiced by the homeopathic school, that the books were not modern, and that if the principles and methods there taught only were applied in the healing of disease, it would be detrimental to the public health

Since the evidence showed that the teaching of the books without a subversion or distortion would be inimical to the public health, the question arose as to whether the bequest for that reason was void It can hardly be doubted that, if it were a bequest which tended to support an immoral purpose as recognized by modern standards of correct conduct, the will would be void for that reason If a will making a bequest for an immoral purpose should be declared void, by the same course of reasoning it would follow that, when providing for the teaching of medicine which would be detrimental to the public health it would likewise be illegal and could not be carried into effect In other words, in such a case, it becomes the duty of the court to declare that the bequest is void on the ground of public policy If the bequest had not been limited to instruction in the books mentioned without subversion and distortion, and had recognized that the principles and methods of those books were to be taught in connection with the modern methods of the homeopathic school, an entirely different question would be presented As the record stands, the bequest and the teachings required thereby are not supported by any modern school of medicine It was contended that the bequest was void also on other grounds, but these need not be considered because the fact that the bequest was void on the ground of public policy disposed of the case

Implied Authority to Make Exploratory Incisions and Extend Operation

(King Carney (Okla) 204 Pac R 270)

The Supreme Court of Oklahoma, in reversing a judgment obtained by the plantiff, and remanding the cause for a new trial holds that the general directions of a patient to his surgeon, authorizing him to perform an operation for the cure of a specific physical ailment, not only authorizes the surgeon to operate, but also, by clear implication authorizes him to diagnose the case for the purpose of discovering for himself the exact cause of the malady he is called on to treat, and to make whatever initial exploratory incisions may be necessary for this purpose If, in the course of an operation to which the patient consented, the physician discovers conditions not anticipated before the operation was commenced, and which, if not removed, will endanger the life or health of the patient, he will, though no express consent was obtained or given, be justified in extending the operation to remove and overcome them

This was an action for damages for an alleged unauthorized operation The plaintiff, Mrs Carney, the court says, had been married twice and had one child by her first husband After her second marriage she bore no children, but suffered from several miscarriages Wishing to correct this condition, she called on defendant King, told him that her family physician had stated that her condition was caused by laceration of the uterus and said "I want to be fixed so I can bear children, and we will never be happy without that" The defendant testified that he made an incision in the plaintiff's abdomen and an examination from which he found that the ovaries were badly affected, that there were many adhesions around the ovaries intestines and uterus, that the fallopian tubes were sealed, both ends being full of pus, and that, on discovering the condition, he removed the diseased organs and the contiguous infected tissues Up to

this point the defendant and the surgeon who assisted with the operation were permitted to testify without objection On the witnesses being asked questions tending to prove that the fallopian tubes, the ovaries and surrounding tissue were so badly diseased that it was necessary to remove the diseased organs and affected parts to preserve the plaintiff's life and health and that it would have been dangerous to her life and health not to do so, objections were made and sustained by the trial court But the supreme court holds that the state of the pleadings warranted the introduction of testimony tending to show an emergency, and that the exclusion of this testimony constituted reversible error

It was contended that, under the pleadings and the proof the plaintiff's directions to the defendant were so limited that he was authorized only to perform the simple operation of mending the laceration of the uterus, which is properly performed through the vaginal opening But the plaintiff's specific directions to the defendant, I want to be fixed so I can bear children, and we will never be happy without that," it seems to the supreme court, not only authorized he defendant to cure the condition, if possible, but by clear implication authorized him to diagnose the case for the purpose of discovering for himself the exact cause of sterility and to make whatever exploratory incisions might be necessary to accomplish this purpose It is quite clear that making the initial incision in the plaintiff's abdomen was a proper and necessary step along this line And the mere fact that the plaintiff may have believed, or had been advised by her family physician that her condition was caused by a laceration of the uterus did not relieve the operating surgeon of the duty of discovering for himself the cause of the physical defect he was called on to remedy When this conclusion is reached, the relevancy of the testimony excluded becomes clearly apparent

Validity of Act Prohibiting Prescribing of Beer

(Falstaff Corporation Allen et al (U S) 278 Fed R 643)

The United States District Court, in Missouri, in holding valid the amendment to the Volstead Act providing that only spirituous and vinous liquors may be prescribed for medicinal purposes, says that counsel for the complainant disclaimed in behalf of beer any medicinal value or property whatever They contended that this amendatory act invaded the inviolable rights of natural liberty, and that the Eighteenth Amendment to the Constitution could not, and as a matter of law did not confer on Congress the authority to say what particular thing or agent might or might not be prescribed as a medicine, by physicians residing in the several states Courts take judicial notice that beer of the sort here involved is an intoxicating liquor, but they do not judicially notice whether beer is or is not valuable as a therapeutic agent It followed, then, that, for the purpose of this case the beer which the complainant desired to make and sell without any interference from the defendants must be regarded as an intoxicating liquor which possessed no recognized medicinal value whatever In the final analysis, it might well be insisted that the Eighteenth Amendment does not in terms forbid the use of beer as a food, but it will hardly be contended that its use for such a purpose can be permitted in the face of this amendment, and the statutes passed by virtue thereof, even though chemical analysis discloses that it possesses some food value and even though in other times it may have constituted, to many, both food and drink In other words, since the adoption of the Eighteenth Amendment, the privilege of drinking beer is no longer governed by the state of mind of him who drinks it, for, since it is an intoxicating liquor, its use is forbidden by the amendment When beer is used as a drink it necessarily follows that it is so used either as a beverage, or as a medicine If it has no value as a medicine, then when it is used as a drink it is used as a beverage, and this the Eighteenth Amendment and the laws passed thereunder forbid Color is lent to the appropriateness of the restriction here complained of by the fact that a large number of the states have deemed it absolutely necessary to pass laws which prohibit the prescribing for medicinal purposes of any intoxicating liquors whatever, save alcohol, and those statutes, thus restricting the privileges of physicians, have been upheld in every case so far as this court's examination of the holdings extends Before the effective date of the Eighteenth Amendment, the Supreme Court of the United States upheld, in *Ruppert v Caffey*, 251 U S 264, 40 Sup Ct 141, the war-time prohibition definition of an intoxicating liquor as being any liquid which contained more than one-half of 1 per cent of alcohol, and held in effect, that Congress, in the light of what experience had demonstrated to the several states to be necessary in enforcing prohibition, could arbitrarily declare a fact to exist, wherefore this case should not be differently decided if the question as to beer having a medicinal value were directly involved If it be that the power conferred on Congress by the Eighteenth Amendment had the effect to narrow, or wholly wipe out, constitutional rights and guaranties heretofore deemed vested and inviolable, the situation may be regrettable, but it canot be helped The people may be mistaken, their course may be tending toward restrictions of human liberty, but under our form of government, the majority rules, and when they change the organic law, this change must stand, and be fairly construed and honestly enforced, until it, in turn shall be again changed in due and legal form

Statutes Relative to Privileged Communications and Vital Statistics

(Hunter v Hunter et al (Miss) 90 So R 440)

The Supreme Court of Mississippi, Division A, reverses a decree that was rendered in favor of the contestants of the will of one Hunter, and remands the cause for a new trial because the physician under whose care the testator was for about two weeks prior to his death was permitted to testify that the testator, who made the will a few days before his death, was afflicted with senile dementia The court says that it was error to admit the testimony of the physician, it was a privileged communication of the patient under his charge, which could not be disclosed except at the instance of the patient It was argued that the statute relative to privileged communications was repealed by implication by the enactment of the law creating a bureau of vital statistics a section of which law provides that any copy of the records of birth, sickness or death, when properly certified to by the state registrar of vital statistics, to be a true copy thereof, shall be prima facie in all courts and places of the facts therein stated But the point made did not arise in this case, because no certificate of the registrar showing the death or sickness of the testator was offered as evidence in the case So far as the question was before this court in the present case, the court holds that the privileged communication statute was not repealed by the vital statistics act unless it was repealed to the extent that a registrar's certificate, made up from statistics or information obtained from the attending physician of the patient may be introduced in evidence to show the character of sickness or cause of death of the patient But the court does not decide at this time how far and to what extent the recent act modifies or annuls the former statute, because the question did not properly arise in this case

Society Proceedings

COMING MEETINGS

American Roentgen Ray Society Los Angeles Sept 12 16 Dr H E Potter 122 S Michigan Ave Chicago Secretary
Colorado Congress of Ophthalmology and Oto-Laryngology Denver July 28 29 Drs. M D Brown and J M Shields Metropolitan Bldg, Denver Secretary
Utah State Medical Association Salt Lake City Aug 31 Sept 2 Dr W L Rich Boston Bldg Salt Lake City Secretary
Washington State Medical Association, Tacoma Sept 5 6 Dr C H Thomson, 508 Cobb Bldg Seattle Secretary
Wisconsin State Medical Society of Green Lake Sept 6 8 Dr Rock Sleyster Wauwatosa Secretary

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Medical Sciences, Philadelphia

June 1922 **163**, No 6

*Value of Quinidin in Cases of Auricular Fibrillation and Methods of Studying the Clinical Reaction T Lewis London —p 781
*Influence of Rigid Salt Restriction in Diet of Chronic Nephritis J McLester Birmingham Ala —p 794
Close Relationship of Erythrogenetic and Leukogenetic Functions of Bone Marrow in Disease Roentgen Ray Treatment E Pendergrass and H K Pancoast Philadelphia —p 797
*Pachymeningitis Hemorrhagica Interna Study of Five Cases of Non traumatic Hemorrhagic Spinal Fluid A D Dunn Omaha Neb —p 819
Diaphragm Irregularities R C Matson Denver —p 826
*Aneurysm of Left Ventricle M H Kahn New York —p 839
Use of Electric Cautery in Laryngeal Tuberculosis G B Wood Philadelphia —p 855
*Pancreatitis Following Mumps Report of Case with Operation L W Farnam New Haven Conn —p 859
*Epidemic Encephalitis Seventy Eight Cases G E Price Spokane —p 871
*Febrile Stages in Chronic Nephritis Their Significance as Observed by Functional Renal Tests J O Ritchey Indianapolis —p 882
Brachial Monoplegia Due to Thrombosis of Subclavian Vein G Wilson Philadelphia —p 899

Quinidin in Auricular Fibrillation — In approximately 50 per cent of cases, quinidin, as it is used at the present time, will restore the normal rhythm in the fibrillating auricles Lewis says The usefulness of the drug from the clinical standpoint is limited The chief limitation consists in the early and very frequent resumption of auricular fibrillation Lewis deprecates the general use of the drug He urges that it should be employed only under strictly controlled conditions, it is a treatment emphatically for the wards rather than for use in an outpatient department

Rigid Salt Restriction in Nephritis —The following results of the salt-free diet were noted by McLester The patient found the food unappetizing and usually ate but little The blood urea instead of decreasing showed a tendency to increase The blood chlorids irrespective of diet, varied but little, while the urine chlorids reflecting the degree of the patient's adherence to the diet fell to a very low figure The systolic pressure, as a rule, showed a moderate fall This fall was never marked In two of the patients there developed weakness and prostration to a distressing degree One of the patients suddenly experienced retinal hemorrhages and other fundus changes at the end of two weeks of this diet From these observations, McLester concludes that the almost complete elimination of chlorids from the diet of patients with nephritis and vascular hypertension accomplishes little if anything, more than does the salt poor diet ordinarily prescribed

Diagnosis of Hemorrhagic Pachymeningitis — Headache, sudden in onset, with signs of meningeal and spinal root irritation when associated with a uniformly bright, bloody spinal fluid, Dunn says is suggestive of pachymeningitis hemorrhagica interna Repeated lumbar puncture has proved of therapeutic value

Aneurysm of Left Ventricle —Kahn reports two cases of aneurysm of the left ventricle In both cases the precordial pain was a prominent feature during the course of the illness but it was not of the typical sternobrachial radiating anginal character Although necropsy findings did show pericardial changes in both instances, clinically this was not diagnosed and it is difficult to state the exact period at which the pericarditis began The outstanding features in the two cases were (1) precordial distress and the prominent circulatory symptoms, (2) myocardial failure, hydrothorax, congestion and enlargement of the liver and congestion of the viscera, (3) electrocardiographic changes, indicating progressive disease in the myocardium, (4) striking similarity in the electrocardiographic records due to the involvement of the apical portion of the left ventricle in both instances, and (5) coronary obstruction involving the descending branch of the left coronary artery The necropsy findings showed aneurysm of the apex and wall of the left ventricle with pericardial adhesions A brief review of the recent literature on cardiac aneurysm is presented Wood's plea for the greater use of the electric cautery in the treatment of laryngeal tuberculosis is not a new idea, nor am I presenting any special technic Any sanatorium not equipped both in its personnel, and in its instrumentarium for the cauterization of tuberculous lesions of the upper respiratory tract is not giving its tuberculous patients the utmost of modern medicine, and the laryngologist who fails to avail himself of its advantages is not a proper person to treat this disease

Pancreatitis Following Mumps —Farnham reports a case of epidemic parotitis, which was followed by abdominal symptoms diagnosed as acute pancreatitis, and an operation showed a swollen, acutely inflamed pancreas with a large quantity of peritoneal exudate The organism isolated from the peritoneal exudate was *Streptococcus viridans*

Analysis of Cases of Epidemic Encephalitis — Approximately one fourth of the cases of epidemic encephalitis seen by Price terminated fatally Of the remaining three fourths approximately 61 per cent were left with persistent or permanent sequels Relapses were of frequent occurrence, bore no definite relation to the severity of the initial symptoms and could occur several months after apparent recovery Prognosis could not be determined from the character and intensity of the initial symptoms Change in the abdominal reflexes is a frequent and important symptom in epidemic encephalitis, probably not hitherto sufficiently emphasized Epileptiform attacks may occur as the sole manifestation of the infection Rest, quiet and care in preventing too early activity on the part of the patient are essential in the treatment of epidemic encephalitis

Febrile Stages in Chronic Nephritis —Many observers have noted the seeming part infection plays in the etiology of nephritis Ritchey's observations show that during febrile elevations, either due to infection or some other agent, there is a noticeable and oftentimes measurable depression in renal function A great majority of all cases of chronic nephritis manifest temperature elevations at times throughout the course (acute stages) In chronic nephritis, fever, with an associated increase in albuminuria, shows an added acute process While function is not consistently depressed in acute infectious fever, it is found to be so during febrile reactions in cases of chronic nephritis In chronic nephritis, as shown by fever with simultaneous untoward clinical symptoms and functional impairment as measured by phthalein excretion, urea and creatinin retention and signs of renal irritation as determined by albuminuria and sediment increase, there are superimposed acute processes The clinical findings of Ritchey's six cases, checked in two cases with necropsy findings would suggest that the course of chronic nephritis is determined by these added acute processes and that the prognosis depends in large measure on their cessation or continuation

American Journal of Ophthalmology, Chicago

June 1922 **5**, No 6

Tumors of Lacrimal Gland Report of Mixed Tumor L A Lane Minneapolis —p 425
Unusual Circular Lesion of Retina W A Cassidy and S R Gifford Omaha —p 434
New Model of Schematic Eye for Skiascopy (Retinoscopy) and Ophthalmoscopy M U Troncoso New York —p 436
Amblyopia Ex Anopsia and Recovery of Vision W H Luedde St Louis —p 441
New Protractor Card for Verifying Axes of Cylindrical and Sphero-Cylindrical Lenses S L Olsho Philadelphia —p 451
Illuminated Perimeter with Campimeter Features C E Ferree and G Rand Bryn Mawr Pa —p 455
Concerning Congenital Coloboma of Lens W B Weilder New York —p 465
Dacryocystitis Cured by Autogenous Vaccine W N Sharp Indianapolis —p 468
Encephalopathy with Ocular Complications Probably Due to Lead Poisoning A C Sautter Philadelphia —p 468
Monocular Trachoma H G Thomas and F S Baxter Oakland Calif —p 470
Self Expression of Lens K C. Wold St Paul —p 470

American Journal of Public Health, Chicago

June 1922 **12**, No 6

School Health Supervision Based upon age and Sex Incidence of Physical Defects S J Baker New York.—p 465
Influenzal Meningitis T M Rivers Baltimore.—p 476
Practical Value of Frost Little Plate Method in Routine Colony Count of Milk Samples H M Hatfield and W H Park New York.—p 478
Bottled Beverages and Soda Fountain Syrups W W Skinner Washington D C.—p 487
Work of American Bakers Association in Development of Sanitary Code for Baking Industry H E Barnard Chicago.—p 494
Reasons for Failure of Methods to Control Diphtheria J W Robinson Los Angeles.—p 497
Bacterial Action of Dry Cleaning L E Jackson Pittsburgh.—p 507
Methods Suggested for Extermination of Mosquitoes W V Becker Philadelphia.—p 509
American Red Cross Diet in Famine Districts of China H C Embrey.—p 514

American Review of Tuberculosis, Baltimore

June 1922 **6**, No 4

Power of Spirit J A Miller.—p 241
Experiment in Employment of Persons with Arrested Pulmonary Tuberculosis H R M Landis Philadelphia.—p 253
*Diagnosis of Pulmonary Tuberculosis from Standpoint of Industrial Physician F A Craig.—p 265
*Causes of Rapidly Increasing Fall of Tuberculosis Death Rate in Last Five Years H Emerson New York.—p 282
Sanatorium Home Treatment Program for Tuberculosis Patients H A Pattison New York.—p 305
Sanatorium Follow Up Studies D E Wiesner New York.—p 320
Practice of Artificial Pneumothorax by Hippocratic School A K Krause Baltimore.—p 327

Diagnosis of Pulmonary Tuberculosis —The history the temperature and loss of weight Craig says are findings of considerable value in the diagnosis of pulmonary tuberculosis A systolic blood pressure which is below the normal for the age of the patient is a very suggestive finding

Causes of Fall in Tuberculosis Death Rate —It is suggested by Emerson that among the possible causes of the decline in the death rate from tuberculosis are (1) those intentionally directed as specific measures against the distribution of the tubercle bacillus from the diseased to the well, (2) those that are accessory and tend to affect the general bodily resistance of those particularly exposed or susceptible or are intended to inform the public so that intelligent self protection may become more general, and (3) those events, social economic and so far as the antituberculosis campaign is concerned, quite accidental, in which we may see an unsought unplanned and, to many, an unexpected bearing on tuberculosis The specific measures mentioned are (1) Early and accurate diagnosis of all forms of tuberculosis and especially of the pulmonary form at special public dispensaries as well as by the private practitioner of medicine (2) Bacteriologic diagnosis of specimens of sputum for those suspected of having pulmonary tuberculosis (3) Notification of tuberculosis as a communicable disease to the officers of public health (4) Segregation in a manner to diminish if not wholly to prevent the distribution of the tubercle bacillus from those with 'positive sputum to others, during the active or open carrier stages of the disease This includes sanatorium treatment or its equivalent under skilled medical and nursing direction of those in the active stages of the disease whether showing positive sputum' or not to abbreviate periods of activity or relapse, and to accomplish early and more nearly permanent arrest of the disease (5) Home nursing services for the education of families in which one or more cases of tuberculosis are under the care of a private physician or dispensary so that the resistance of the members of the family may be raised to and maintained at a level which will reduce the probability of development of active stages of the disease and that the infectious discharges of the patient in the form of sputum spray and saliva and in eating and toilet articles often used in common, may be promptly destroyed or rendered innocuous (6) Enforcement of laws and ordinances designed to reduce the habit of spitting in public places where the opportunities are great for the fouling of shoes clothing and articles of common use by discharges from the respiratory tract (7) Enforcement of laws and ordinances forbidding the common use of such articles as drinking cups, eating utensils, towels, etc (8) The compulsory pasteurization of milk and milk products, except such as come from herds or cows proved to be free from tuberculosis (9) Exclusion of parts or all of the carcasses of animals slaughtered for food purposes in which gross tuberculous lesions are found before or after slaughtering (10) Examination and exclusion of those found to be suffering from active or open tuberculosis from industries concerned with the handling and serving of food (11) The control of flies, especially in homes and in hospitals or sanatoria where active open cases of tuberculosis are under care, and where food is prepared or served

Annals of Otology, Rhinology and Laryngology, St Louis

March 1922 **31**, No 1

Problem of Middle Ear Mechanics A G Pohlman St Louis.—p 1
Intranasal Reconstruction F J Pratt and J A Pratt Minneapolis.—p 46
Gravity Drainage and Swabs vs Irrigation and Wicks in Otitis Media G E Barnes Herkimer N Y.—p 107
Tonsillar Tubercles Containing Intracellular Concretions Simulating Foreign Body Pseudotubercles C V Weller Ann Arbor Mich.—p 110
Demonstration of Physics of Suction Applied to Nose with Modification of Usual Technic S Iglauer Cincinnati.—p 125
New Local Anesthetic for Nose and Throat Work A E. Bulson Jr Fort Wayne Ind.—p 131
Study of Schwabach Test in One Hundred Cases R Sonnenschein Chicago.—p 137
Tonsillectomies in Adults for Rheumatism with Critical Review of Results H Hastings Los Angeles.—p 157
Hyoscin and Morphin as Preliminary to Local Anesthetics L M Hurd New York.—p 167
Nasociliary Neuralgia G Sluder St Louis.—p 172
Vocational Occupational or Industrial Diseases of Ear Nose and Throat J A Donovan Butte Mont.—p 176
Tinnitus Aurium T J Harris New York.—p 192
Postoperative Treatment of Radical Mastoid Operation J A Stucky Lexington Ky.—p 200
Tic Douloureux in Relation to Latent Maxillitis H B Lemere Omaha.—p 204
Dichloramin Treatment of Mastoid Wounds R A Fenton Portland Ore.—p 214
Acute Lacunar Adenoiditis S Salinger Chicago.—p 220
Problem of Hard of Hearing and Electrical Hearing Devices G E Shambaugh Chicago.—p 225
Bacteriology and Histopathology of Adenoids I Pilot Chicago.—p 231

Archives of Dermatology and Syphilology, Chicago

June 1922 **5** No 6

*Study of Trichophyton Purpureum Bang Trichophyton Interdigitale Priestley and Trichophyton B Hodges M Ota Mukden, Manchuria.—p 693
Variability in Susceptibility to Poison Ivy E D Brown Minneapolis.—p 714
*Neurorecurrences Following Treatment with Arsphenamin E L Zimmermann Baltimore.—p 723
*Simple Quantitative Precipitation Reaction for Syphilis R L. Kahn Lansing Mich.—p 734
*Itchy Points N Toomey St Louis.—p 744
*Radium in Treatment of Subungual Verrucae S Ayres Jr Los Angeles.—p 748
Verruca Plana Juvenilis J B de Medina Madrid Spain.—p 750

Trichophyton Purpureum —After examination of the literature together with the mycologic investigations of his own material Ota arrived at the conclusion that *Trichophyton purpureum* (Bang) *Epidermophyton rubrum* (Castellani) *Trichophyton* A (Hodges) and probably also *Trichophyton rubidum* (Priestley) are one and the same organism, and as it has the character of an ectothrix, it would be more apt to call it *Trichophyton* than *Epidermophyton*

Neurorecurrences After Arsphenamin Therapy —Thirty-nine neurorecurrences are tabulated by Zimmermann Their symptomatology genesis and prognosis are discussed Pathologically there are two types a diffuse meningovascular process and a process limited to one or more focalized lesions In the former the spinal fluid is always abnormal in the latter it may show marked abnormalities or may be entirely normal Prophylaxis of such lesions depends on a thorough mercurial treatment It seems immaterial whether mercury is administered during or immediately following a course of arsphenamin

Quantitative Precipitation Reaction for Syphilis —Kahn adds to his previous discussion of his precipitation reaction for syphilis in which strongly reacting serums showed pre-

cipitation within several minutes and weak ones at the end of three hours' incubation in the water bath He records further observations regarding (1) the preparation of antigen, (2) the dilution of antigen for the tests, (3) the preparation of serum for the tests, (4) the optimum quantities of serum and antigen to be used in the tests, (5) the temperature and time of incubation, and (6) the reading of results

Itchy Points—An itchy disorder is described by Toomey which has characteristics so unique and notable that the diagnosis may be made simply by close clinical observation The disease, or type of itching, is very rare It has probably been confused most often with tic and psychotic (neurotic) scratching The clinical course of the disorder presents features that are peculiar not only in the distribution and character of itching but also in the local appearance of the itchy points The appearance of the skin over a pruritic point, if it has not been manipulated, shows absolutely no recognizable change from the normal If the skin has been scratched or titillated, there will be the usual response to mechanical irritation Repeated fingering of the itchy points may lead to a secondary infection of one or more of the follicles The itching has characteristic limitations It is essentially composed of one or more points, each of which seems to be more minute than the point of a steel pin If two or several itchy points coexist, they are never grouped or even located close to one another The disturbance of sensation is not a burning or stinging feeling but is a tantalizing itching of the severe tickling variety The itching is not continuously present Nor is it always worse at any certain time of the day or night The itchy points favor certain areas A factor common to these areas is the presence of a bony prominence under the skin The cause and mechanism of this type of itching are completely unknown Local applications are useless From the little that is known of this disorder, it is not possible to form any principles of prognosis or direct medication

Radium for Subungual Warts — Strikingly satisfactory results were obtained by Ayres in two cases by the use of radium

Boston Medical and Surgical Journal

June 22 1922 **186** No 25

Treatment of Diabetes Mellitus E P Joslin Boston —p 833

Treatment of Diabetes Mellitus—Joslin urges that centers of instruction for diabetic patients should be promoted These may form around an individual doctor or a group of doctors or a hospital, but the necessity of such centers is the detailed nature of the instructions which diabetic patients must receive and the expense of the laboratory tests It is easier to teach a group of patients and far less time consuming than to teach individual patients The time required to perform ten tests for sugar in the urine exceeds by little that required for one test When it comes to blood sugar estimations the difference in expense between performing ten tests and one is almost negligible Wholesale methods must be introduced into medical practice to reduce expense and render these tests available for all Private laboratories should be encouraged wherever they exist, and hospitals, whether private or public should extend the facilities of their laboratories to physicians in needs of the same Physicians must learn to cooperate in their laboratory work just as surgeons have learned to cooperate in their surgical work Very few surgeons have their own anesthetists, very few physicians should have their own laboratories The latest and newest methods of treatment are being constantly demanded by patients If the physicians are not able to furnish the results of these methods and tests at suitable fees then the laity will demand that the state furnish them *just as it furnishes* diphtheria antitoxin and Wassermann tests Nurses who are trained in diabetic treatment are of the greatest assistance to physicians This will never be appreciated unless tried For patients, too, who can afford it the simplest way to carry out treatment is to have the diet arranged by a nurse Severe cases are incomparably better treated in this manner than by remaining in a hospital

June 29 1922 **186**, No 26

Mental Hygiene in Relation to Present Day Nursing L V Briggs Boston —p 867
Pyelography Preliminary Report O S Lowsley New York —p 873
Importance of Early Operation in Congenital Umbilical Hernia I F Watson Chicago —p 875
Treatment of Asthma and Associated Diseases in Children A R Cunningham Boston —p 876
*Cholesteatoma of Temporal Bone J M Shefferd Fall River Mass —p 877

Cholesteatoma of Temporal Bone—In the case reported by Shefferd, the tympanic cavity, the mastoid process and part of the squamous portion of the temporal bone were converted into one common irregular cavity

Georgia Medical Association Journal, Atlanta

June 1922 **11**, No 6

Some of Phases of Texts on Pneumonias E C Thrash Atlanta —p 211
Address to Eighteen Living Ex Presidents of Medical Association of Georgia F K Boland Atlanta —p 217
Ectopic Kidney Report of Case W W Anderson Atlanta —p 221
Median Episiotomy D C Elkin —p 224

Iowa State Medical Society Journal, Des Moines

June 15 1922 **12**, No 6

Medical Problems in Iowa A M Pond Dubuque —p 205
Types of Severe Anemia A Stengel Philadelphia —p 208
The Present Status of the Treatment of Pernicious Anemia P B McLaughlin Sioux City —p 214
Pernicious Anemia Study of One Hundred and Twenty Seven Cases F J Rohner Iowa City —p 216
Control of Hemorrhage in the Tonsil Operation F W Bailey Cedar Rapids —p 222
Some Determining Factors in Nasal Sinus Diseases G F Harkness Davenport —p 224
Combined Anesthesia C Ryan Des Moine —p 230

Diagnosis of Pernicious Anemia—Of the diagnostic points chosen by Rohner five are considered of distinct positive evidence, and five contribute greatly to the diagnosis of pernicious anemia because of their negative evidence Of positive value are (*a*) history of remissions, (*b*) evidence of posterolateral cord involvement, (*c*) a red blood cell count below two and one-half millions, (*d*) a leukopenia, (*e*) abnormality of the red blood cells Of the negative points, that is, factors that are against the diagnosis of pernicious anemia if absent are (*a*) history of paresthesia, (*b*) glossitis, (*c*) a plus color index, (*d*) absence of free hydrochloric acid in the Ewald test meal, and (*e*) the abnormal excretion of urobilin and urobilinogen

Journal of Experimental Medicine, Baltimore

June 1922 **35**, No 6

Ten Year Old Strain of Fibroblasts A H Ebeling New York —p 755
Action of Four Aromatic Cinchona Derivatives on Pneumococcus A Comparison with Optochin L D Felton and K M Dougherty New York —p 761
Source of Virus in Blackhead of Turkeys Administration of Ipecac and of Sulphur E E Tyzzer and M Fabyan Boston —p 791
*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients VIII Cultural and Morphologic Characters of Bacterium Pneumosintes P K Olitsky and F L Gates New York —p 813
Peptase Lipase and Invertase of Hemolytic Streptococcus F A Stevens and R West New York —p 823
*Experimental Plethora in Dogs and Rabbits E B Krumbhaar and A Chanutin Philadelphia —p 847

Culture of Bacterium Pneumosintes from Influenza—After artificial cultivation for a period of more than three years, *Bacterium pneumosintes* has maintained its original morphologic and cultural characteristics, when grown in the original medium Adaptation to a saprophytic existence has been accompanied by a loss of pathogenicity The strains used by Olitsky and Gates now grow readily under strictly anaerobic conditions in a variety of mediums with peptone broth as a base enriched with fresh tissue blood, or by the growth of other bacteria Surface colonies have been obtained on blood agar plates in an anaerobic jar These various methods of cultivation are adapted to special purposes In broth cultures *B pneumosintes* grows in larger forms than in the ascitic fluid-tissue medium but the identity of the micro-organisms is proved by their serologic reactions and by reversion to the minute forms on transfer to the

original medium These methods of cultivation are being used in studies of the nasopharyngeal secretions of influenza patients obtained during the present recurrence of influenza in New York City

Experimental Plethora.—The effects of repeated transfusions of blood on the blood-destroying and blood-forming apparatus of normal and splenectomized dogs and rabbits are described by Krumbhaar and Chanutin An anemia which developed despite continued blood transfusions in two dogs splenectomized during plethora was also studied

Journal of Nervous and Mental Diseases, New York

June 1922 **55**, No 6

Diagnostic Value of Vegetative Disturbances in Diseases of the Nervous System E A Spiegel Vienna —p 465
Neurosyphilis in Ex Service Men R H Prince, Philadelphia —p 485
Findings in Five Cases of Corpus Striatum Disorder T Raphael and F C Potter Kalamazoo Mich —p 492

Kansas Medical Society Journal, Topeka

June 1922 **22**, No 6

Atresia of Vagina L F Barney Kansas City —p 163
Trend of Modern Diagnosis R D Mussey, Rochester Minn —p 167

Military Surgeon, Washington, D C

June 1922 **50**, No 6

Tuberculosis and Its Relation to Warfare Gases —p 609
Columbus Barracks Measles H H Rutherford —p 619
Mumps Epidemiology and Influence of Disease on Noneffective Rate in Army C G Sinclair —p 626
Daily Physical Exercise Factor in Preventive Medicine V T Scott —p 648
Anti Bolshevik Crimean Army of Denikin and Wrangel — Sanitary Department C S Ford —p 652
Varicocelectomy with Shortening of Scrotum C E Frank —p 687
Notes on History of Military Medicine F H Garrison —p 691

New Jersey Medical Society Journal, Orange

June 1922 **19**, No 6

Surgical Affections of Right Upper Quadrant of Abdomen C G Heyd New York —p 151
*Diabetes in Negro Report of Eight Cases H I Goldstein Camden —p 157
Organized Reserves D A Kraker Newark —p 162
*Schick Test as Public Health Measure J Shapiro Union Hill —p 164

Diabetes in Negro—Eight cases of diabetes in the negro are reported by Goldstein in a series of sixty-five cases of diabetes mellitus Apparently diabetes in the negro is much less common than in the white population Syphilis is not an important causative factor in negro diabetics

Schick Test for Schoolchildren —Of 1 600 schoolchildren tested by Shapiro about 600 were found to be positive He advocates the procedure

New York Medical Journal and Medical Record

June 21 1922 **115**, No 12

Modern Commentaries on Hippocrates J Wright Pleasantville N Y —p 721
Tongue as Source of Systemic Infection T R French Brooklyn —p 725
Auricular Fibrillation F W Price London —p 730
Influenzal Sinusitis H Smith New York —p 734
*Bronchoscopic Cases of Dental Origin H H Forbes New York —p 738
Four Cases of Open Safety Pin in Esophagus of Children Under Eleven Months of Age E J Patterson Pittsburgh —p 739
Two Cases of Lung Tumor Treated Bronchoscopically S Yankauer New York —p 741
Treatment of Suppurative Conditions of Lung T E Carmody Denver —p 742
*Pneumoperitoneum as Aid in Diagnosis of Cardiospasm. S Iglauer Cincinnati —p 745
Hodgkin's Disease in Which Endoscopy Led to Diagnosis L M Hurd New York —p 746
Clinical Study of Biliary Secretions Obtained by Nonsurgical Drainage G W McCaskey Fort Wayne Ind —p 747
*Weight Reduction and Its Remarkable Effect on High Blood Pressure R H Rose New York —p 752
Gallstone Colic Its Cause and Treatment. H Halpert Scranton Pa —p 755
Dangers of Operations for Rectal Fistula C J Drueck Chicago —p 757
Diagnosis of Carcinoma of Rectum A A Landsman New York —p 758
Perforated Gastric and Duodenal Ulcer A H Harrigan New York —p 760
Operating Room. J F X Jones Philadelphia —p 766

Bronchoscopic Cases of Dental Origin—Forbes cites five cases in which the foreign body aspirated into the bronchi was of dental origin, as Gold crown in right main bronchus, tooth plate in left primary bronchus, lung abscess from root and small pieces of tooth inhaled, and amalgam fillings loosened during tooth extractions and aspirated while under the anesthetic

Pneumoperitoneum as Diagnostic Aid in Cardiospasm—Judging from the experience gained in a case cited, Iglauer believes that pneumoperitoneum should be of considerable value in the study of obscure cases of cardiospasm From the evidence offered by pneumoperitoneum it seemed likely that the symptoms of cardiospasm in his case were due to adhesions between the diaphragm and the liver encroaching on the subdiaphragmatic esophagus

Biliary Passages Seat of Focal Infection—The importance of the gallbladder and bile ducts as the site of a focal infection is strongly emphasized by McCaskey who agrees with Friedenwald that a search for focal infection cannot be considered complete without a study of the bile obtained by nonsurgical drainage of the biliary apparatus The clinical method of obtaining the biliary secretions for chemical and microscopical study is beset with difficulties which may be slight or insurmountable In about 5 per cent of the patients, McCaskey entirely failed to get the tube into the duodenum on the first trial In some of them he subsequently succeeded The time required varied from half an hour to three hours, and in a few extreme cases to several hours He uses the fluoroscope constantly to determine when the tube is in proper position By revealing the curves which the tube makes, the fluoroscope constitutes the most positive demonstration of the location of the tube In approximately 70 per cent of observations a dark colored, or B, bile was obtained by either an abrupt or gradual transition In the remaining 30 per cent it rarely ever happened that the light yellow bile underwent no changes excepting in those cases in which the gallbladder had been removed or there was good reason to suspect that it was not functioning because of obstructed ducts or other causes Both the gradual transition and the slighter grades of darkening, in McCaskey's opinion are probably due to a slow extrusion of bile from the gallbladder With regard to the cases showing sudden transitions there is no reasonable doubt

Effect of Weight Reduction on Blood Pressure —Weight reduction through dietetic adjustment Rose asserts causes improvement in several important symptoms either due to or associated with obesity One of the most uniformly noticed and the most important of these is the reduction of blood pressure The amount of this reduction is much greater than could be obtained by the use of drugs Excepting Bright's disease focal infection and incurable diseases this method gives promise of being a therapeutic measure which can be relied on to reduce blood pressure Cases amenable to this method of treatment maintain the low blood pressure if the diet is normalized at the conclusion of the reduction Symptoms which seem to be dependent on the increased blood pressure are relieved as the blood pressure falls These are shortness of breath palpitation, edema of the lower extremities and albuminuria One of the worst forms of headache is due to high blood pressure It is very successfully relieved by this method of treatment.

Northwest Medicine, Seattle

June 1922 **21** No 6

Cesarean Section in Treatment of Eclampsia Report of One Post mortem Delivery H E Wheeler Spokane —p 165
Surgical Prevention of Sterility Due to Salpingitis E. F Ziegelman Portland Ore —p 168
Cosmetic Surgery of Face Neck and Breast F A Booth Seattle —p 170
Barium Meal Study in Gallbladder Diagnosis L Kallen Medford Ore —p 172
Analysis of Cases Handled by Salt Lake City Office of United States Public Health Service During 1921 B W Black Salt Lake City, Utah —p 179
Antiseptic Dye Treatment of Gonorrhea in Female Experimental Studies R Jones Seattle —p 182
Diagnostic Problems in Pulmonary Tuberculosis R C Matson Portland Ore —p 185

Painless Labor C A Smith Seattle—p 189
Helpful Technic for Operations on Thyroid J B McNerthney Tacoma Wash—p 189
Quinidin in Auricular Fibrillation K Winslow Seattle—p 191

Ohio State Medical Journal, Columbus

July 1922, 18, No 7

*Syphilis of Aorta C W McGavran and E Scott Columbus—p 477
*Right Aortic Arch R O Brigham Toledo—p 484
Megacolon W H Fisher Toledo—p 487
Heart Disease in Pregnancy W G Dice Toledo—p 491
Headaches C H Hay Cleveland—p 495
Rarity of Adult Contact Tuberculosis S A Douglass Dayton—p 501
Ether in Tuberculosis C R Coate Pleasant Hill—p 503

Syphilis of Aorta—As a result of observations it is the judgment of McGavran and Scott that the time to look for syphilis of the heart is when syphilis is first recognized as syphilis and the patient is known to be syphilitic From that time on watch for it as one would for a beginning endocarditis in a case of rheumatic fever

Right Aortic Arch—The specimen of the right aortic arch described by Brigham is the first one observed in the anatomical laboratory of the University of Michigan during the dissection of about 1 400 cadavers, a fact showing the relative infrequency of incidence The specimen was found in a male subject about 50 years of age The heart was normal, and it occupied the normal position in the thorax The arch lay anterior and to the right of the trachea and oesophagus The branches of the arch were a reversal of the normal, namely, a left innominate, which gave origin to the left subclavian and the left common carotid On the right side the right subclavian and the right common carotid were given off This reversal was not accompanied by the transposition of any other organ of the body The arch did not rise high above the heart as is sometimes the case The descending aorta crossed the midsagittal plain obliquely to the left side *before passing through the diaphragm The fibrous remains* of the left arch were about four centimeters in length It extended from the left subclavian artery to the descending aorta and passed downward and backward to the left of the trachea, left recurrent laryngeal nerve and esophagus The ligamentum ductus arteriosus was present on the left side about 2 cm below the fibrous remains of the left arch and was about twice its diameter The ductus was about 2 cm in length It united with the descending aorta about five millimeters distal to the attachment of the fibrous remains of the left aortic arch and communicated with the left pulmonary artery The position of the ligamentum ductus arteriosus shows that it was the persistence of the left sixth brachial vessel The left recurrent laryngeal nerve passed around the ductus arteriosus The right recurrent laryngeal nerve passed beneath the arch of the aorta

Philippine Journal of Science, Manila

February 1922 20, No 2

Citrus Canker Control Experiments in Japan H A Lee and A Shino p 121
New Brenthidal from the Philippines and Borneo V R Kleine—p 153
Foliar Transpiring Power of Coconut S F Trelease—p 167
Cultivation of Leishmania Infantum and Leptomonas Ctenocephali on Triple N Medium L Leiva—p 179
Digestive Properties of Philippine Papain H C Brill and R E Brown—p 185
Review of Philippine Paleontology R E Dickerson—p 195

Public Health Journal, Toronto

May 1922 13, No 5

Problems of Girlhood and Motherhood E Guest—p 193
Study of Infant Deaths in Toronto During Summer of 1921 A G Fleming—p 199
Some Provincial Vital Statistics A C Jost—p 204
Sex Education—p 215
Victorian Order of Nurses for Canada—p 220
Mental Defect and Venereal Disease F E Brown—p 222

Rhode Island Medical Journal, Providence

June, 1922 5 No 6

Significance of Bladder Symptoms in Women E Stone and J McCann, Providence—p 253
Treatment of Ear Infections in Contagious Diseases J J Gilbert Providence—p 257

Southern Medical Journal, Birmingham, Ala

June 1922 15, No 6

*Pulsus Alternans Its Significance and Recognition by Ordinary Clinical Methods R Lyons New Orleans—p 431
Use of Copper Filter in Roentgen Ray Treatment of Deep Seated Malignancies T A Groover, A C Christie and E A Merritt Washington D C—p 440
European Impressions and Personal Experience in the Use of High Voltage Roentgen Rays in Deep Seated Malignancy R H Millnee Dallas Texas—p 444
Practical Status of Deep Therapy with Advent of Higher Roentgen Ray Intensities E C Ernst St Louis—p 448
*Lamblia Intestinalis Report of Cases J E Knighton Shreveport La—p 457
*Lamblia Intestinalis Infestation and Its Treatment S K Simon New Orleans—p 458
Micrococcus Lanceolatus with Necropsy Report O W Hill Knoxville Tenn—p 465
Field Work on Tuberculosis H Boswell Sanatorium Miss—p 466
Possibilities of Cooperation of Railroad Officials with Local, State and Federal Boards of Health in the Prevention of Disease J J Bowdoin Adairsville Ga—p 468
Operative Treatment of Certain Fractures Femur Humerus Forearm E W Ryerson Chicago—p 473
Method of Treating Selected Fractures of Long Bones W B Owen Louisville—p 476
Treatment as Applied on the Fracture Service of City Hospital Dallas W B Carroll Dallas Tex—p 479
Treatment of Cancer of Uterus with Radium L Frank Louisville—p 489
Present Status of Radium Therapy E S Lain Oklahoma City—p 495
Management of Tuberculous Laryngitis W V Mullin Colorado Springs—p 501
Indications for Operation on Middle Turbinate H Bailey Springfield Mo—p 509

Pulsus Alternans—Lyons has been impressed by the fact that if blood pressure readings were performed more carefully, bearing in mind the possibility of the presence of pulsus alternans, this symptom would be far more frequently detected by physicians in general practice than it is at present Owing to the fact that many physicians take graphic records only of cases which show an irregular cardiac action the presence of pulsus alternans frequently eludes them, for here the pulse may be regular with little or no acceleration Furthermore, pulsus alternans may be very transient, rendering the taking of graphic records impractical in many instances The careful use of the auscultatory blood pressure method in all cardiorenal cases, especially accompanied by hypertension, will be of great value in detecting this condition

Magnesium Sulphate in Lamblia Intestinalis Infestation—Knighton believes that the intestinal tract may be rid of these parasites by introducing magnesium sulphate solution in fairly large quantities into the duodenum Of course, the solution does not come in contact with those that are adhering to the walls of the gallbladder and are not expelled The remaining parasites multiply rapidly and soon reinfect the duodenum

Lamblia Intestinalis Infestation—Simon reports eight cases and besides recording the many sided clinical aspects presented, he directs attention to the importance of recognizing the infection and to the need of determining the role it might play in the causation of some of the doubtful cases of intestinal disturbances peculiar to the South The eradication of giardia infection once it has become firmly entrenched in the intestinal tract, has proved a signally unsuccessful undertaking *In two cases reported previously by Simon,* duodenal lavage, with Jutte solution, was given a thorough tryout In one case the cysts promptly disappeared from the stools, but control has been lacking in determining the permanence of this effect In the other case the results proved disappointing

West Virginia Medical Journal, Huntington

May 1922 16, No 10

Clinical and Surgical Study of Fifty Consecutive Pathologically Demonstrated Cases of Gallbladder Diseases R K Buford Charleston—p 419
Interpretation of White Blood Count F C Hodges Huntington—p 428
Radium in Treatment of Cancer of Cervix Uteri L Frank Louisville—p 432
Opportune Appearance of Mental Symptoms in Those Accused of Crime or Facing Crisis in Life T Diller Pittsburgh—p 438

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

Archives of Radiology and Electrotherapy, London

May 1922 **26**, No 12

Radiographing Spine and Pelvis H J Suggars —p 382

British Journal of Psychology, London

April 1922 **2**, No 3

Experimental Study of Mechanism of Hallucinations M Prince Boston —p 165
Spiritual Significance of Psychoanalysis B M Hinkle —p 209
Two Cases of War Neurosis J Young —p 230
Mental After Effects of Sleeping Sickness in School Children C Burt.—p 237

British Medical Journal, London

June 10 1922 **1**, No 3206

Hyperthyroidism G R Murray —p 905
*Pulmonary Sign in Acute Infections of Biliary Tract D P D Wilkie —p 908
Cesarean Section With Special Reference to Present Day Indications for Operation C J G Taylor —p 909
Cesarean Section S J Cameron —p 911
Eclampsia Evolution as Causative Factor S E Kark —p 912
Continuous Treatment in Surgical Tuberculosis F W Goyder —p 914
Nitrogen Method as Aid to Differential Diagnosis in Mental Disease R V Stanford —p 915
Poisoning by Butter of Antimony W Bell —p 917
Differential Diagnosis Between Cerebral Hemorrhage and Diabetic Coma E D Spackman —p 918
Treatment of Early Cases of Cholera with Volatile Oils G O F Sealy —p 918
Antenatal Treatment of Congenital Syphilis with Arsphenamin and Mercury N F Rowstron —p 318

Pulmonary Sign in Acute Infections of Biliary Tract—Wilkie has found that crepitations at the right lung base occur in quite a fair percentage of cases of acute biliary infection This pulmonary sign may also be found when the infection is located in the ducts and when the gallbladder is not the chief seat of trouble

Edinburgh Medical Journal

June 1922 **28**, No 6

*Etiology of Malignant Disease and Leukemia Lymphoma and Lympho-Sarcoma Experimentally Produced in Mouse J Young —p 233
Myiasis Oestro a Occurrence in Human Subject of Larva of Hypoderma Bovis D M Greig —p 258
Spinal Anesthesia D N Kalyanvala —p 267

Etiology of Malignant Disease and Leukemia—The bacteriologic investigations made by Young and experimental results he believes support the view that malignant disease and the related leukemic phenomena both in the human subject and in the mouse are dependent on an infection of body cells by an organism which in each case, has specific characters Whether the human and mouse organisms are identical and depend for their slightly differing morphologic characters on the difference in the hosts is still undetermined The experiments demonstrate that the human organism is capable of producing proliferative lesions in mice Experimental proof of the relationship of the organism to carcinoma is lacking in the sense that only in a small proportion of cases has a malignant epithelial growth been found in the injected animals The production on the other hand, of a progressive and malignant neoplastic change in mesodermic cells in a large number of injected animals indicates that the mouse organism is capable of producing a true malignant tumor The experiments suggest that in the healthy animal the only tissue that is capable of responding to the stimulus of the organism by proliferating in a malign fashion is the lymphoid tissue which is presumably built up of cells that retain their embryonic power of free division into adult life Earlier Young suggested that human carcinoma is an infection by an organism which passed one phase in the cancer cell This has been followed in the present paper by the complete and convincing demonstration of such an intracellular phase in the experimentally produced malignant phenomena of the mouse Finally, the investigations incidentally provide data in support of the contention that the leukemic phenomena and lymphosarcoma are related to one another in regard to their ultimate etiology, and that these states are, on etiologic grounds, related to ordinary malignant disease

Irish Journal of Medical Science, Dublin

May, 1922 **5**, No 3

*Case of Infantile Splenic Anemia (Von Jaksch) J Craig and A C O Sullivan —p 97
Milk and Public Health J W Bigger —p 102
New Medical School at Frankfurt am main W Doolin —p 112
Blood Crisis in Pernicious Anemia Precipitated by Blood Transfusion J H Pollock —p 119
Fatal Otitis Media Without Perforation H C Drury —p 121

Fatal Case of Infantile Splenic Anemia—A fatal case of infantile splenic anemia occurring in a girl twin aged 16 months is reported by Craig and O'Sullivan The other twin—a boy—and three older children were healthy as were also the parents of the children The twins were breast-fed

Journal of Tropical Medicine and Hygiene, London

June 1 1922 **25**, No 11

*Genuine Case of Malarial Polyneuritis R W Mendelson —p 139

Malarial Polyneuritis—In Mendelson's case the neuritis began with difficulty in walking and in using the upper extremities This difficulty rapidly increased, to such an extent that the man could neither walk nor control the movements of his arms On being admitted to hospital in an unconscious state a blood examination demonstrated a severe infection with *Plasmodium falciparum* Immediate and intensive antimalaria treatment was instituted 40 gm quinin were given intravenously the first twenty-four hours, after which the patient regained consciousness Intensive treatment was continued for one week, the blood showed parasites until the sixth day of treatment One week after the patient entered the hospital the paralysis was complete in the lower extremities The upper extremities were also affected, but to a less degree The trunk muscles, those of the neck and face, eyes, tongue, respiration, heart and other organs were not affected to an appreciable degree, if at all No sensory disturbances, no mental symptoms, very slight edema of both ankles Urine, negative

Lancet, London

June 10 1922 **1**, No 5154

Radiations in Treatment of Cancer R Knox —p 1131
Acute Intestinal Obstruction D P D Wilkie —p 1135
*Certain Conditions Associated with Deficient Secretion in Upper Alimentary Tract T I Bennett and E C Dodds —p 1138
*Nitrous Acid Poisoning W St C McClure and H Heap —p 1142
*Complement Fixation in Gonorrhea One Thousand Tests T E Osmond —p 1143
Basal Fibrosis of Lung in Children G T Hebert —p 1145
*Case of Infantile Acute Endocarditis E F Skinner —p 1147

June 17 1922 **1** No 5155

Clinical Symptoms of Cerebellar Disease and Their Interpretation G Holmes —p 1177
Bacterial Origin of Dental Caries J McIntosh W W James and P Lazarus Barlow —p 1183
Researches on Yellow Fever H Noguchi —p 1185
Acute Suppuration of Middle Ear Early Drainage of Mastoid Antrum. D McKenzie —p 1191
Diathermy in Surgical Practice W H Clayton Greene —p 1192
Case of Foreign Body Impacted in Right Secondary Bronchi G N Biggs —p 1194
Gangrene of Small Intestine J N Greene —p 1194
Case of Acute Mania Following Operation for Extraction of Senile Cataract G B Lowe —p 1195

Deficient Secretion in Upper Alimentary Tract—Bennett and Dodds assert that complete absence of gastric hydrochloric acid, and hence of active gastric ferments is frequently encountered in healthy persons A precisely similar phenomenon is frequently seen in dyspeptic subjects The increased rapidity of gastric emptying time in such cases may be the cause of increased hunger contractions, aerophagy and flatulence In rare cases an increased secretion of mucus is seen in such subjects, this is sometimes an indication of true gastritis and may be secondary to a pulmonary or nasopharyngeal infection In other rare cases of achylia there is delayed gastric emptying, in such subjects there is usually marked visceroptosis In a patient proven

to have pancreatic sclerosis, the fall of alveolar carbon dioxid tension, which normally occurs on the passage of food through the pylorus, was absent In patients suffering from pernicious anemia there is, in addition to complete achylia gastrica, a marked diminution in the "pancreatic fall" of alveolar carbon dioxid tension Such patients have clinically been shown frequently to have signs of pancreatic insufficiency Similar pictures of alveolar carbon dioxid tension and achlorhydria have been found in severe secondary anemias and cachectic conditions The authors believe that the achylia of pernicious anemia is secondary to the blood condition At least four types of pictures are given by the laboratory examination of cases of gastric carcinoma A type characteristic of extreme pyloric stenosis, a type characteristic of cachexia, a type with excessive secretion of mucus, a type difficult to distinguish from benign achylia

Nitrous Acid Poisoning—McClure and Heap record the accidental poisoning of six persons by nitrous acid caused by the inadvertent admixture of sodium nitrate with their food The symptoms were the same in all, but varied in degree The first signs of illness appeared between fifteen and thirty minutes after eating The patients at first felt dizzy and "swimmy," with a great "flushing and throbbing" of the head They had difficulty in breathing as if they were being stifled, there was a slight pain in the stomach and a feeling of nausea All but one vomited They all showed a well marked greyish blue color of the face and lips No pain was complained of, there was no diarrhea They all recovered

Complement Fixation in Gonorrhea—In Osmond's opinion, the complement-fixation test in gonorrhea does not seem to have received the recognition it deserves He considers its value in diagnosis at least as great as that of the Wassermann reaction in syphilis The reaction becomes positive earlier in the disease than does the Wassermann in syphilis, and it does not tend to disappear as a result of treatment till some time after the disease is cured A series of 1,000 tests is discussed

Infantile Acute Endocarditis—Skinner's patient was only 4 months old and was brought to him because of an intractable eczema Apart from the skin eruption the child appeared remarkably well The baby was taken to the hospital and put to bed about 5 p m, receiving his first feed at 6 (modified cow's milk taken well with no regurgitation), after which he went to sleep, waking at 2 a m He was again fed, and went to sleep immediately, waking once more at 6, when he was given a third feed Again he went to sleep, and at 8 a m when the day nurse went to dress the eczema, she found the child sleeping and decided to leave him for half an hour, intending to carry out the dressing later, but on returning at 8 30 the baby was dead He had made no cry, and had not even turned over, there was no cyanosis or frothing at the mouth, nothing to suggest a cause of death At the necropsy it was found that all the organs were healthy with the exception of the lungs and heart On the surfaces of both lungs were several bluish marks about the size of a mustard seed which on closer examination proved to be minute subpleural hemorrhages The heart appeared normal in size and color, but on section it was observed that the tricuspid valve was somewhat less smooth than normal, and, perhaps, a little pinker than might have been expected, though the right auricle and pulmonary artery appeared to be perfectly healthy The mitral valve, however, was found to be gravely involved, the free edges and auricular surfaces of the flaps being extensively covered with a growth of soft vegetations, not large, and quite recent being shiny and pink in color and extremely friable The coronary arteries appeared to be patent and there were no congenital defects of any kind present There had been no clinical signs of any pulmonary or cerebral disturbance, nor were there present any pathologic features, such as pulmonary infarcts or thrombosis of cerebral blood vessels to account for such a sudden death The most likely explanation, Skinner states, is the onset of ventricular fibrillation consequent on the presence of an embolus in a coronary artery sufficiently small to have passed beyond the openings

Sei-I-Kwai Medical Journal, Tokyo, Japan

May, 1922 **41**, No 2

Experimental Investigation on Antibody Formation Against Transplantable Mouse Carcinoma K Yamagiwa and T Kimura

South African Medical Record, Cape Town

May 27 1922, **20**, No 10

Typhus Literature A Pijper—p 182
Case of Posterior Lenticonus T H Robinson—p 196

Archives des Maladies du Cœur, Etc, Paris

May 1922 **15**, No 5

*Capillaroscopy C Laubry and J Meyer—p 265
*Gonococcus Endocarditis G Lion and Levy Bruhl—p 289
Ventricular Extrasystoles with Paroxysmal Tachycardia L. Gallavardin—p 298
Thrombostasis in the Heart R Lutembacher—p 307

Capillaroscopy—Laubry and Meyer found capillaroscopy interesting in hypertension but were unable to obtain any clinical information from it which could not be determined by other means

Gonococcus Endocarditis—The serodiagnostic test was positive for the gonococcus in the woman of 29 with infectious endocarditis She died about two months after the first symptoms They had followed a painful, acute polyarticular disease supposed to be rheumatism Only 50 instances are on record of endocarditis with gonococci cultivated from the vegetations in the heart Two cases in this compilation are quoted from THE JOURNAL All but 13 were men in the 50 cases The clinical picture in the case reported here included daily attacks of fever of the sepsis-pyemia type, preceded by chills and followed by profuse sweating The only sign of embolism was the punctate purpura In some of the cases on record there were metastatic abscesses in spleen liver kidneys, lungs or joints In other cases the fever was continuous suggesting typhoid, which seemed to be confirmed by the stupor diarrhea and enlargement of the spleen Auscultation in the case reported revealed the murmur of insufficiency, but the palpitations and other functional symptoms were masked by the severe infection and weakness Agglutination of the gonococcus by the serum was the only clue to the nature of the disease before necropsy The gonococcus was cultivated from the blood in some of the cases but only once in four or five tests The sero-agglutination test is the simplest, and the most constant in its findings, by Porges technic He acidifies the culture and boils it and then neutralizes it, after which it can be agglutinated by the patient's serum In this case agglutination occurred at 1 50 but 1 20 is the rule for gonococcus rheumatism etc The serodiagnosis may allow the use of an autovaccine early enough to abort the disease

Bulletin de l'Academie de Medecine, Paris

May 30 1922 **87**, No 22

Necessity for Abolishing Privilege of Home Distilling G Thibierge—p 570
*Medical Impressions of America T de Lapersonne—p 574
*Cholelithiasis from Surgical Standpoint P Bazy—p 578
Fibrous Abscess in the Liver T Legry—p 582

Medical Impressions of America—This communication was summarized in the Paris letter, p 146

Cholelithiasis from Surgical Standpoint—Bazy advocates removing the gallbladder when there is cholecystitis, whether there are gallstones or not "We should treat it as we treat appendicitis"

Bulletin Medical, Paris

May 20 1922 **36**, No 21

*Treatment of Ptosis G Lyon—p 407
Auscultation of Abdomen A C Guillaume—p 412

May 27 1922 **36**, No 22

What Has Been Accomplished in the Line of Hygiene for Children H Mery—p 431
Care for Children in Tuberculous Families P Armand Delille—p 434 and p 437
Experimental Psychology J M Lahy—p 438
Medical Inspection of Schools and Choice of Trade. G Heuyer—p 441

Treatment of Ptosis—Lyon insists that gymnastic exercises are the only rational treatment for ptosis The exercises should be done standing and reclining, and breathing exercises should be alternated with the others Drawing in the abdominal wall while holding the breath, and relaxing the wall as one breathes deep, is direct exercise for the stomach Among the more useful exercises done while reclining is to make movements with both arms and legs as if swimming, spreading the legs as far apart as possible Swimming and canoeing are the only sports he advises, and these only when the ptosis shows signs of improvement Rubbing and hydrotherapy aid in making the abdominal wall over, as it were, and thus conquering the tendency of the tissues to sag

Bulletins de la Societe Medicale des Hôpitaux, Paris

May 12 1922 **46**, No 16

*Tertiary Syphilitic Joint Lesion P Lechelle—p 756
Fatal Insufficiency of Liver in Dysentery Labbe and Bith—p 760
*Painful Gynecomastia Laederich and Le Goff—p 764
*Fatal Emetin Polyneuritis F Soca—p 768
*Sign of Impending Pericarditis Dargein and Plazy—p 772
General Hypertrichosis with Dog Like Face P Pagniez and L de Gennes—p 773
*Obliterating Thrombo Angeitis A Gilbert and A. Coury—p 776
*Bronzed Diabetes M Labbé and H Stevenin—p 785
*Thoracoplasty for Tuberculosis of One Lung R Burnand—p 788
*Treatment of Tabetic Pains Sicard and J Lermoyez—p 797

Tertiary Syphilitic Joint Lesion—The right ankle had long been swollen and painful in the woman of 41, apparently a tuberculous "white swelling" refractory to all treatment for years Finally the Argyll Robertson sign gave the clue to the nature of the osteo arthropathy, and it rapidly retrogressed under treatment for syphilis

Painful Gynecomastia—Laederich's patient was 76 when his mammary glands became much enlarged and painful Under roentgen irradiation conditions returned to clinically normal, but the testicles became tender An abscess developed in one breast after the first roentgen exposure, but the abscess was in the nonexposed breast

Emetin Polyneuritis—Soca's case of fatal polyneuritis followed eighteen days of treatment with a total of 1 05 gm of emetin for dysentery He wrote that he had encountered about thirty cases of toxic action from emetin, and it proved fatal in quite a number Symptoms of toxic action were regularly observed when the dose of 8 cg was repeated several days in succession In this fatal case death occurred with bulbar symptoms [The death of Soca, a leading clinician of Montevideo professor and senator, was recorded in THE JOURNAL, May 13, 1922, p 1471]

Sign of Incipient Pericarditis—Dargein was able to confirm in two cases the change in the second sound at the pulmonary orifice, to which Josserand has called attention as warning of the erethism of the heart as disease is becoming established The sound is described as a ringing, clangorous clapping *(eclatant, clangoreux, vibrant claque)*

Obliterating Thrombo-Angeitis—Gilbert and Coury describe the first case to be published in France of the "nonsyphilitic arteritis obliterans of Jews" The man of 36 is an immoderate smoker but the intense and continuous pains from the vascular affection the suppuration, and several operations in the course of the year had not entailed anemia He has been free from pain since a Lisfranc amputation in August, and the trophic troubles in the hands have retrogressed although the left radial pulse is imperceptible, as also the pulse in the right foot The affection seems to be restricted to Jews from Central Europe

Attenuated Bronzed Diabetes—The special character of Labbe's case was that although the glycosuria could not be reduced below 20 or 30 gm a day and there was cirrhosis of both liver and pancreas yet the condition had persisted for fourteen years before the fatal exacerbation

Thoracoplasty for Pulmonary Tuberculosis—Burnand calls attention to the success in six of seven cases treated by resection of the first ten ribs the resected segments close to the vertebrae and from 3 cm to 15 or 20 cm long The results, he says have been "so satisfactory so rapidly satisfactory, so complete," that he recently sent three more patients to Roux for this thoracoplasty One man of 40 in this group succumbed to septicemia from infection of the wound, but the cavity in the lung had been completely obliterated The operation should be done under regional anesthesia, and any progressing lesion in the other lung, no matter how minute, is an absolute contraindication Burnand knows of an instance of fatal pulmonary edema after the thoracoplasty in a patient with lesions in both lungs He advises the thoracoplasty only when therapeutic pneumothorax is out of the question, but it has certain advantages over the latter On the other hand, it does not allow the functional recuperation of the lung thus treated

Treatment of Tabetic Crises—Sicard and Lermoyez present evidence that the tabetic crisis is brought on by some superposed factor affecting the circulation, a change in temperature or barometer pressure, an error in diet, or abuse of alcohol These seem to induce a kind of vasomotor shock a hemoclastic crisis, and treatment to combat this shock may ward off and cure the pains in tabes Epinephrin is the treatment of choice for this In three patients suffering from tabetic gastric crises, rebellious to subcutaneous injection even of large doses of morphin the intravenous injection of 0 5 mg of epinephrin in 10 c c of physiologic saline was followed in from half an hour to two hours by complete or nearly complete subsidence of the pain The injection can be repeated in a few hours or the next day They even injected up to 1 mg without disturbance Calcium chlorid had been tried without effect in these cases

Journal de Medecine de Bordeaux

May 25 1922 **94**, No 10

Treatment of Habitual Constipation J Carles—p 295
*A Case of Megaesophagus G Chavannaz and Nard—p 300
Results of Heliotherapy at the Ares Aerium Lapauze—p 302
French Medical Mission in Spain P Mauriac—p 304

Conservative Treatment of Dilatation of the Esophagus—Chavannaz and Nard report a case of megaesophagus in a woman of 53 The symptoms had developed after acute bronchitis The patient found that she was suddenly unable to swallow solid food and, later even liquids did not pass into the stomach The Wassermann test was negative, and she seemed healthy otherwise Radioscopy two months after the onset of symptoms revealed stenosis of the cardia and extreme dilatation of the esophagus, which was filled with fluid Esophagoscopy confirmed the spasm of the cardia They applied systematic measures to dilate the cardia, at weekly sittings and immediately witnessed the transformation of the patient. The vomiting ceased and solid food began to pass into the stomach Four months later the woman had gained over 13 kg in weight, and esophagoscopy showed that the esophagus had returned to normal size

Paris Medical

May 20 1922 **12** No 20

Recent Literature on Diseases of Liver Spleen and Pancreas E Chabrol—p 409
*Manifestations in the Stomach of Cholelithiasis P Harvier—p 425
Remote Results of Gallstone Operations P Mathieu—p 428
*Edema of Ascending Colon P Carnot and E Libert—p 430

May 27 1922 **12** No 21

Necessity for Reform in the Management and Care of Mental Diseas... H Claude—p 433

Gastric Manifestations of Cholelithiasis—Harvier confirms that the gastralgic form of lithiasis is quite frequent The attacks of pain are transient, but they resemble those of tabes and pancreatitis The paroxysm seems to be an equivalent for liver colic and tenderness in the gallbladder region and along the course of the phrenic nerve may give the clue In other cases the cholelithiasis induces dyspepsia, the clinical picture may resemble that with any functional or organic disease of the stomach or duodenum The remissions characteristic of an active ulcer are common with this gallstone dyspepsia The pains are more likely to develop and be more intense at night than during the day, and they may spread to the right shoulder, and are aggravated by deep breathing stretching the trunk, jars, and fatigue Fat and eggs are liable to bring on an attack, as also the approach of the

menses Hypochlorhydria usually accompanies gallstone dyspepsia of long standing

Edema of the Intestine—The edema of the ascending colon, in Carnot's case, was the result of compression of the superior mesenteric vein by two large gallstones in the common bile duct

Schweizerische medizinische Wochenschrift, Basel

May 18 1922 **52**, No 20

*Transmission of Smallpox by Flies H Hunziker and H Reese—p 469
*Spinal Cord Tumors O Veraguth—p 476

Smallpox and Flies—The conditions in a recent epidemic of 43 cases at Basel indicated the possibility that contagion had occurred by means of flies

Spinal Cord Tumors—Veraguth describes the case of a woman of 53 who recovered completely after removal of a subdural neoplasm The special feature of the case is that intercostal neuralgia for eleven years, rebellious to all treatment, disappeared completely after removal of the spinal tumor The neuralgia had evidently been the first sign of trouble, but the tumor was eleven years developing to a size that induced other symptoms In another case a sarcoma required resection of part of the second to the seventh cervical vertebrae The cure was complete ,and the motor function of the spine does not seem to be impaired in the least The upper vertebrae might have been spared, as the tumor was found lower than anticipated The extreme tenderness of the vertebrae above was misleading The woman of 32 had been under treatment for six weeks for supposed severe hysteria before the tumor was suspected In the case first mentioned, a medical authority had insisted to the very last that the symptoms were of purely psychic origin

Policlinico, Rome

May 15 1922, **29**, No 20

Theory and Practice of Protein Therapy S Belfanti—p 637 Conc n
*Amebic Abscess in Liver O Falzi—p 648
*Peritoneal Urine Reaction S Solieri—p 651
*Indicanuria V Sebastiani—p 653

Emetin in Amebic Abscess in Liver—Falzi reports the complete and permanent cure under emetin alone of an amebic abscess in the liver of a man of 29 No micro organisms could be cultivated from the pus obtained by puncture of the liver, but the ameba was found in the stools, and the history showed recurring dysentery during the preceding six years, with symptoms from the liver He increased 8 kg in weight during the forty-five days of emetin treatment

The Sgambati Peritoneal Urine Reaction—Solieri expatiates on the importance of this reaction as a guide not only for diagnosis and prognosis but also as an indication when and how to operate The reaction was described recently in THE JOURNAL, June 17, 1922, p 1914 This sign may warn of impending perforation in typhoid, as the ulceration approaches the serous membrane, the peritoneum suffers, and gives the Sgambati reaction before perforation has actually occurred The urine should be tested for it every day during the second week and later, as operative intervention is incomparably less dangerous before than after the bowel has perforated

Test for Indicanuria—Sebastiani has found that commercial hydrochloric acid to which 2 per thousand iron filings or iron rust have been added forms a sensitive and reliable test for indican in the urine

May 22 1922 **29**, No 21

The Intermediate Metabolism in Athrepsia S de Villa and G Aiello—p 673
Hydatid Cysts in Unusual Locations L Baccarini—p 676
Epidemic Singultus F Buffone—p 682
*Peritonitic Meteorism A Cerioli—p 683

Prophylaxis of Peritonitic Meteorism—Cerioli queries whether it might not be possible to introduce a tube into the rectum in abdominal operations in which peritonitic complications are feared The assistant might introduce the tube, and the operator manipulate and guide it until the tip reached the colon Necropsy findings have shown the feasibility of this, and that it might have averted the fatal outcome

Riforma Medica, Naples

April 17, 1922, **38**, No 16

*The Secondary Rays in Roentgenization C Guarini—p 361
*The Mechanism of the Cardiac Reflexes S Lafranca—p 364
Therapy of Diphtheria R Fua—p 373
Recent Literature on Appendicitis E Arevoli—p 375

April 24, 1922 **38**, No 17

The Sinus Node in the Mammalian Heart D Pace—p 385
Pathogenesis of Nephrosis U Parodi—p 389
Radiography of Interlobar Hydatid Cyst A Lama—p 391
Dosage in Pharmacology P Piccinini—p 392
Nosography of Febriculae I Jacono—p 394

The Secondary Rays in Roentgenization—Guarini describes Ghilarducci's many years of experiments with direct radio therapy supplemented by the generating of secondary rays by bismuth taken internally, or by a sheet of lead opposite the source of the rays or by ionophoresis of a silver salt The latter method was successfully applied in a case of cancer of the cheek and nose, published Feb 24 1921 He has been successful also in treating lupus by irradiating from the sound side with a sheet of lead in close contact with the lesion Guarini has been applying this method also and reports a case of lupus of the cheek and lip, of three years' standing, cured by three applications of this combination The rays were applied through the mouth to the inside of the cheek, with a sheet of lead pressed against the patch of lupus outside The success was equally complete in a case of lupus of the hand, and another with a lesion on the ankle He is now applying this Ghilarducci method on a large scale

The Heart Reflexes—Lafranca analyzes the mechanism of the various reflexes affecting the heart in normal and pathologic conditions Among them he mentions the contraction of the myocardium under precordial percussion, while dilatation is observed with percussion of the first dorsal vertebrae

Deutsche medizinische Wochenschrift, Berlin

April 28 1922 **48**, No 17

*Diet in the Treatment of Diabetes H Strauss—p 546
Weather in Relation to Disease Prinzing—p 549
Orthopedic Treatment of Rachitic Deformities Wollenberg—p 551
Colloid Instability as Reaction to Toxic Action Daranyi—p 553
Mycosis Fungoides and Noma Rusing and Schulte—p 555
Therapeutic Inflammation and Fever P Schober—p 556
*Treatment of Hyperhidrosis M Joseph—p 557
Masked Scurvy Edith Alexander Katz—p 557
Apparatus for Pneumothorax Treatment A Hofvendahl—p 558
Theory of Internal Secretion in Relation to Normal and Pathologic Physiology A Weil—p 559
Respiratory Disturbances from Surgical Affections G Leddehose—p 562

Problems of Diet in the Treatment of Diabetes—Strauss remarks that, valuable as have been the experiences of the war with regard to the effect of undernutrition on certain cases of diabetes, they have changed nothing in the plan of treatment that he had previously worked out for diabetic patients It is more important than ever to study carefully the individual tendency to endogenous acidosis, to discover for each diabetic the kind of diet that best corresponds to his tolerance for carbohydrates and best fits his capacity for the combustion of acetone bodies These seldom run parallel Special tolerance tests must in every case precede the institution of any particular diet For some patients the control of the amount of protein ingested is even more important than the carbohydrate intake Starchy substances that have to be acted upon for some time by the gastro-intestinal juices before they are dissolved are better tolerated than those in more easily digestible form For the same reason, a proper proportion of fat should be taken with the meals as the fat prolongs the stay in the stomach and thus retards absorption of carbohydrates from the intestine Reduction of the protein intake often increases the carbohydrate tolerance For the permanent diet of patients with marked acidosis a practically carbohydrate-free diet is not admissible in most cases According to the severity of the cases there should be a more or less frequent change in the diet, the purpose being at times to combat glycosuria and at other times acidosis In numerous cases he found von Noorden's *Mehlsuppen* (flour soups) of great value He combats severe acidosis and resistant glycosuria with fast days and days of drinking, but no food He does not approve of protracted fasting, as he has seen

in several cases sudden loss of weight and marked weakness resulting therefrom On vegetable days and "beverage" days he uses alcoholics freely, holding that these save on the total calories required, and also keep down the acidosis The fat intake must be reduced in some cases The restriction of fat and the general undernutrition during the war prevented often the development of the typical coma of diabetes, so that more diabetics made progress than in peace times His study of 1,500 cases of diabetes in soldiers during the war showed that a much larger proportion of the moderate cases were favorably influenced by treatment than is the case in civilian practice He ascribes this to the fact that the diabetes was recognized earlier and given thorough treatment more promptly The surgical complications of diabetes were also remarkably rare in these diabetic soldiers

Treatment of Hyperhidrosis—Joseph recommends in hyperhidrosis of the palms, soles and axillae in mild cases, application twice daily of a 5 per cent solution of chromic acid, or of a 1 per cent watery solution of tannic acid or a mixture of tannic acid 40 glycerin 40, and tincture of iodin 20, or of trichloracetic acid 1, balsam of Peru 1, formic acid 3, chloral hydrate 5, and alcohol to make 100 parts For the night he advises a powder consisting of salicylic acid 5 boric acid 10 tartaric acid 10, zinc oxid 40, and talc 40 parts In moderately severe cases he applies twice daily a 4 per cent solution of formaldehyd, which if necessary, he increases to 20 per cent At night the foregoing powders are applied If the formaldehyd proves too strong an irritant the addition of sodium carbonate will lessen the irritation A milder solution is formaldehyd 2 sodium carbonate 2, and water to make 100 parts In very severe cases he has found roentgen irradiation effective but this causes a roughness and dryness of the skin, with slight atrophic changes

Klinische Wochenschrift, Berlin

March 18 1922 **1**, No 12

*Natural Immunity in Children A Czerny—p 561
Present Stage of the Eclampsia Problem P Esch—p 563
Abdominal Colic with Porphyrinuria I Snapper—p 567
Shuttle Method for Examining Intestinal Contents Van Der Reis—p 570
Tuberculosis in Relation to Food Scarcity A Gottstein—p 572
Sulphur in Treatment of Arthritis Deformans R Meyer Bisch—p 575
Erythrocyanosis Cutis Symmetrica F Bolte—p 578
Cure of Epiphora by Incision of Stricture Heimann—p 580
Inflammation and the Nervous System A Kuttner—p 580
Innervation of Antagonist Muscles Experiments on Patients Cinematized by Sauerbruch Method Bethe and Kast—p 581
Experimental Research on Kidney Changes in Diphtheria Wolff—p 581
Histologic Changes in Brain in Hyperkinetic Affections of the Mouse Following Diphtheria Infection F H Lewy—p 582
Roentgen Findings in Chronic Partial Cardiac Aneurysm Christian and Frik—p 582
Evidence That the Indications for Cholecystectomy Should be Extended H Zoepffel—p 583
*Kindergarten Teacher in Children's Hospital H Benario—p 593

Natural Immunity in Children—Czerny discusses various factors affecting natural immunity in children among others, a diet poor in purin An infant gets along very well on food poor in purin At what age a diet rich in purin must be introduced is still a matter of controversy We observe the highest susceptibility to disease combined with a marked tendency to hyperplasia of the lymphatic tissues in children who subsist for long periods on food poor in purin There are no doubt children who will thrive for years on a diet poor in purin There are also a great many children who need food rich in purin from the time they are 2 years old Research on metabolism shows that not every child is able to extract from primitive forms of food all that his organism needs and that in many cases, we must prescribe proteins fats and carbohydrates in a definite known form, or harm will arise

The Kindergarten Teacher in the Hospital—Hertha Benario emphasizes the need of kindergarten teachers in the children's wards of hospitals more particularly in the surgical and dermatologic wards in order to prevent a retardation in the mental development of children She urges that welfare societies inquire into this need and endeavor to supply the desired instruction

Medizinische Klinik, Berlin

May 21 1922 **18**, No 21

Congenital Pyloric Stenosis M Borchardt—p 651
General Principles for Treatment of Wounds Sonntag—p 655
Drug Treatment of Headache H Kionka—p 657
Pleuropericardial Friction E Frey—p 659
*Multiple Sclerosis of Endocrine Glands F Hochstetter—p 661
*Therapeutic Use of Static Electricity E Horwitz—p 664
Congenital Pneumatocele in Parotid Gland J Rudich—p 666
*Test for Bilirubinemia A Vogel and B Zins—p 667
Treatment of Disease of Posterior Urethra E Portner—p 669
Recent Publications on Social Insurance P Horn—p 671

Friction Between Pleura and Heart—Frey describes three cases of an unusual friction sound accompanying the heart beat traced to inflammation of the left mediastinal pleura from a tuberculous process in the superior lobe of the left lung The friction sound was heard first at the apex but then changed to the base and it was audible only during expiration instead of with inspiration as at first He queries whether this is a general law for pleuropericarditic friction depending on the distention of the lung at the apex during inspiration and at the base, depending on the narrowing of the space during active expiration

Multiple Sclerosis of Endocrine Glands—Hochstetter relates that necropsy confirmed this diagnosis The thyroid testicles and suprarenals showed the most pronounced sclerosis the parathyroids and pituitary were sclerotic and atrophied and the spleen, kidneys liver and lungs were more or less indurated The whole syndrome had developed in six years in the previously robust farmer of 38 The first symptoms had been intense thirst, sleeplessness headache and impotence Chronic bronchitis and emphysema followed At the fourth year pains suggesting polyneuritis, and extreme weakness apathy and emaciation dominated the clinical picture with low blood pressure polydypsia and polyuria, but the urine was free from albumin and sugar Death occurred from heart weakness He regards this "connective tissue diathesis of the glands as a disease *sui generis* The fact that excessive thirst was the first symptom, and that the pituitary showed the most advanced changes suggests that this gland was the first affected No venereal or infectious disease was known in the antecedents and tobacco and liquor had been used only in moderation

Static Electricity in Medicine—Horwitz describes the application of static electricity by electrodes, air baths and sparks as he has found it extremely useful in hundreds of cases of functional nervous disturbances of all kinds neuralgia in the head insomnia neurasthenia, hysteria, and nervous heart and stomach disturbances

Bilirubinemia—Vogel and Zins treat 0.5 c.c. of the blood serum or exudate with twice the volume of 20 per cent trichloracetic acid The precipitate is stirred up with a glass rod and this emulsion is filtered through a folded filter The precipitate left on the filter turns green as it dries the depth of the tint corresponding to the proportion of bilirubin present They say that this is a specific and sensitive test for pathologic bilirubinemia When negative, the tint is yellowish or white

Munchener medizinische Wochenschrift, Munich

April 28 1922 **69** No 17

Treatment of Gastric and Duodenal Ulcer Cramer—p 613
Quartz Lamp Treatment of Tetanus A von Beust—p 618
The Mastic Reaction in the Cerebrospinal Fluid E Sahlgren—p 618
Origin and Significance of Secondary Murmurs in Functionally Cured Pulmonary Tuberculosis H Alexander—p 619
Swimming Pool Conjunctivitis I Best—p 621
Dangers in the Abortive Treatment of Gonorrhea Fuchs—p 622
Prevention of Mercurial Stomatitis Heermann—p 623
Roentgen Sarcoma Pathogenesis of Sarcoma A Beck—p 623
Central Luxation of Head of Femur F Rehm—p 625
Chlorin for Sterilization of Tuberculous Sputum Lorentz—p 625
Microscopic Examination of Blood in Lead Workers H Fugel—p 626
Management of Meningococcus Material Intended for Examination in Bacteriologic Institutes K Hundeshagen—p 627
Crimes Committed in an Hypnotic State E Speer—p 629
Preservation of Sterile Water in Ampules G L Dreyfus—p 630
Luminous Paint to Aid in Roentgen Work Holzknecht and Jahoda—p 632
An Adjustable Infusion Apparatus W Lust—p 633

Method of Counteracting Rigidity of Abdominal Muscles During Palpation T Hausmann —p 633
Curvilinear Incision A Kortzeborn —p 634
Influences Affecting Lactation Grumme —p 634 Comment Schoedel —p 635
Course and Treatment of Pernicious Anemia P Morawitz —p 637
Prevention and Treatment of Abdominal Adhesions Vogel —p 638

Treatment of Gastric and Duodenal Ulcer—Crämer discusses particularly such points as admit of a different interpretation than is usually found in the textbooks He holds that hyperchlorhydria is not so much the cause as it is the effect of the ulcer Processes similar to gastric ulcers occur in the bladder, in the vagina in the rectum and in the lower portion of the esophagus, where there is no gastric juice, and duodenal ulcer develops in a strongly alkaline medium If hyperacidity prevents the healing of a gastric ulcer, as is so often asserted, how does it happen that so many ulcers heal spontaneously without attracting any attention by their symptoms? We cannot assume that anacidity was present in all such cases If postoperative jejunal ulcer is caused by the gastric juices, why does it occur in scarcely 2 per cent of all gastro-enterostomies? Several years ago, a patient reported that the bismuth suspension that he had taken for roentgenography had helped him very much—that he had had much less pain since then After this observation had been made repeatedly, Crämer concluded that the bismuth suspension, since it filled the whole stomach, opened up the folds of the mucosa and adhered to ulcerous spots and this might be the cause of the improvement Others have observed similar results Since that time he has often prescribed a bismuth suspension breakfast twice a week with improvement or a cure in the case of many old ulcers that he had hitherto treated in vain by other methods As for lavage with gastric ulcer, it is always indicated with motor disturbances or marked gastritis Marked pyloric stenosis together with high-grade stasis of the gastric contents and moderate *vomiting is a strong indication for operation If after four* weeks' medical treatment (rest special diet, daily gastric lavage, Cohnheim's oil treatment) there is no particular improvement the urine does not increase much in quantity, the stasis does not decrease particularly the weight does not increase and the general condition does not improve in such cases surgical intervention should not be delayed Following operation the after-treatment is of the greatest importance Often successful internal treatment is not possible until after an operation

May 5 1922, 69 No 18

Ideas and Theories of Inflammation L Aschoff —p 655
Cholesterinuria and Indigouria G Dorner —p 661
Chronic Appendicitis and Liver Disease L Saathoff —p 662
Ileus with Yellow Atrophy of the Liver After Intravenous Treatment Two Cases Zieler and Birnbaum —p 664
Ileus with Yellow Atrophy of Liver in Syphilitic F Breuer —p 666
Syphilis of the Lungs Unrecognized for Fifteen Years Winkler —p 667
Second Neurorelapse Following Combined Treatment of So Called Sero negative Primary Syphilis F Kromeke —p 668
Arterial Flaps and Epithelial Inserts J F S Esser —p 669
Experiences with Direct Blood Transfusion (Oehlecker) Bonhoff —p 671
Neo Arsphenamin in Wounds of the Buccal Cavity Ritter —p 672
*Umbilical Cord Sign of Separation of Placenta H Hegewald —p 673
Kretschmer's Theory of Constitution in Relation to Anthropology W Mayer Gross —p 676
Diagnostic Puncture F Penzoldt —p 676

Cord Sign of Separation of Placenta—Hegewald states that under light pressure with the fingers on the fundus of the uterus the clamped umbilical cord stiffens if the placenta is still adherent, and relaxes as the pressure on the fundus is released He says that this shows the exact moment when the placenta is ready for Crede expression When the placenta has separated, the impulse is not transmitted to the vessels in the cord

Wiener klinische Wochenschrift, Vienna

May 4 1922 35 No 18

Microscopy of Eye and Ophthalmoscopy in Red Free Light Lauber —p 407
Intra Uterine Fetal Injuries A Greil —p 412
Effect of Galactose on Blood Sugar Content Kahler and Machold —p 414
Blood Changes with Stenosis of Upper Air Passage M Kraus —p 417
Colloidal Benzoin Reaction in Cerebrospinal Fluid F Mras —p 417

May 11 1922 35, No 19

Tuberculosis of the Eye F Dimmer —p 431
Urochromogen Excretion in Women's Diseases E Klaften —p 435
Effect of Diuretics on Fibrinogen Kollert and Starlinger —p 439
*Treatment of Sequels of Epidemic Encephalitis I Piticaru —p 441
Excretion of Pigments in Gastric Juice and Bile F Rosenthal and M Falkenhausen —p 442 Reply Saxl and Scherf —p 444

Treatment of Sequels of Epidemic Encephalitis with Intravenous Injections of Patients' Own Lumbar Puncture Fluid—In three cases of persisting clonic spasms and in one case of parkinsonism continuing long after subsidence of the acute encephalitis, Piticaru injected intravenously the patients own lumbar puncture fluid No benefit was derived from simple lumbar puncture, without subsequent intravenous injections Through lumbar puncture he aspirated with a record syringe 10 c c of spinal fluid, which he immediately injected into the ulnar vein of the same patient The injections were given at intervals of from five to seven days In mild cases four injections sufficed, in the severer cases as many as seven injections were required Soon after the first injection, the symptoms began to decrease and later disappeared entirely or nearly so He theorizes that the cerebrospinal fluid may contain antibodies during convalescence from the epidemic encephalitis

Zeitschrift fur klinische Medizin, Berlin

April 19 1922 91 No 1 3

*Gout H Gudzent and Keeser —p 1
The Polychemical Urobilin Reaction T Hausmann —p 12
The Heart During Physical Work Bruns and G A Roemer —p 22
The Immune Biology of Typhoid H Oeller —p 49
*The Spleen J Weicksel —p 90
Pathologic Amino Acid Content of Urine S Landren —p 101
*The Jugular Pulse L Ohm —p 140
Asthma W Sternberg —p 196

Pathogenesis of Gout—Continuing their research on gout, Gudzent and Keeser recorded the uric acid content and non protein nitrogen in organs from cadavers and organs removed at operations and the organs of fowls They explain how their findings allow deeper insight into the intermediate metabolism of purins

Polychemical Test for Urobilin—Hausmann announces that addition to urine of a 10 per cent or other strong solution of a salt of any heavy metal or organic or morganic acid seems to suspend the action of some force which otherwise impedes extraction of urobilin with chloroform or ethyl acetate No other pigment can be extracted with chloroform in this way except bile pigment and the latter cannot be extracted with chloroform when a 10 per cent solution of copper sulphate has been used On the other hand, it is readily extracted with chloroform from natural urine The amounts used must be large 2 c c of the concentrated solution of the salt or 6 to 8 drops of the concentrated acid for each 20 c c of the urine

Effect on Heart of Strenuous Physical Work—Bruns and Roemer give the results of comprehensive roentgen-ray study of the changes in the size of the heart compared with pulse and blood pressure in man and animals They show that mechanical influences alone cannot explain the changes observed Besides the action on the heart of the waste products generated in the course of strenuous physical exercise we have to reckon with psychic influences The importance of the latter in modifying the size of the heart was abundantly demonstrated in their experiments This factor does not enter into experiments on animals, as the animals are under the influence of an anesthetic or decerebrated

The Immune Biology of Typhoid—Oeller declares that the old conception of typhoid solely from the standpoints of bacteriology and pathologic anatomy must now give way to the newer conception of disease from the standpoint of allergy and vital reactions This standpoint has been reached in tuberculosis but typhoid is much better adapted for study from this standpoint as the whole process—which in tuberculosis may be spread over a lifetime—occurs in typhoid within a few weeks

Function of the Spleen—Weicksel's research on the physiology and pathology of the spleen has confirmed the close connection between it and the liver, the bone marrow

and the lymph glands, and its importance in destruction of the blood and formation of bilirubin

Pathologic Excretion of Amino-Acids in the Urine—Zondren compares the aminoaciduria in thirty-three cases of advanced tuberculosis with the findings in six healthy subjects and eleven with disease of various kinds but sound livers, and a number of cases of other disease or poisoning. All this evidence testifies to the importance of excretion of amino acids as a sign of severe insufficiency of the liver.

The Jugular Venous Pulse—Ohm discusses the conditions in health and disease as the jugular pulse wave is modified by the work and the filling of the heart. He gives twenty-five tracings and fifteen roentgenograms to explain the findings and their mechanism. The pulse wave was studied with a tiny mirror swinging on an axis glued to the skin. A rod was fastened to the center of the axis, the outer end of the rod resting on the vein and transmitting the movements of the vein to the mirror. This study of the jugular pulse throws light on the functional capacity of the heart.

Asthma—Sternberg calls attention to some new standpoints for treating asthma based on the physiology of the respiratory movements and speech movements and the laws of playing on musical instruments. From these he deduces a physiologic mechanotherapy, a pedagogic didactic method which aims to insure the relaxation of the muscles. The inability to relax promptly is the main factor in asthma, in stuttering, etc. The physiologic pause in the respiration—the relaxation period—must be cultivated and lengthened by systematic exercises. He emphasizes that technical skill in playing on an instrument increases as the movements are made without conscious effort of the will. This fact alone he says, shows the absurdity of combating asthma by counting exercises or other devices which fasten the attention on the anomaly.

Zentralblatt fur Gynakologie, Leipzig

March 25, 1922, **46**, No. 12

*Surgical Era in Gynecology. A. Mayer.—p. 449.
Psychodiagnosis and Psychotherapy in Gynecologic Practice. V. Stemmer.—p. 458.
*Collection of Data on Septic Abortion. H. A. Dietrich.—p. 467.
A Rare Injury of the Uterus. W. Sigwart.—p. 473.

April 1, 1922, **46**, No. 13

Defense of the Alexander-Adams Operation. H. Fehling.—p. 482.
Value of the Alexander-Adams Operation. G. Stefart.—p. 483.
Therapy of Placenta Praevia. C. Meyer.—p. 485.
Diagnostic Curettage of the Uterus with Fatal Result Due to Endogenous Infection. L. Lederer.—p. 496.
Rare Human Monster. Rhachipagus Parasiticus. H. Poltheir.—p. 501.
Case of Primary Carcinoma of the Tube. C. Stanca.—p. 508.

The Surgical Era in Gynecology, Neglect of Borderline Subjects—Mayer expresses regret that in recent years, many surgeons seem to overlook the fact that many gynecologic symptoms do not have their origin in a purely gynecologic affection of some organ but on the contrary have their roots in the patient's general condition. The brilliant success of operative gynecology was mainly due to the fact that it is an organ specialty. This is its strength and at the same time this is its weakness. He knows of young women who have had a series of operations from amputation of the portio, the Alexander-Adams, appendectomy and nephropexy to gastro-enterostomy with hysterectomy finally as the dysmenorrhea and vomiting persisted. There is a tendency to overlook general disease sailing under a gynecologic flag.

Record for Septic Abortion—Dietrich gives in detail a blank form that he recommends for recording the results of treatment of septic abortion. He regards the subject as important in view of the increase in the number of cases. If directors of hospitals and also specialists and general practitioners will furnish him with their data he will gladly later undertake their collation. Dietrich is *Oberarzt* in the Universitats Frauenklinik at Gottingen (Germany), where communications may be addressed.

Zentralblatt fur innere Medizin, Leipzig

March 18, 1922, **43**, No. 11

Modification of Iodin Bile Pigment Test. E. Silberstern.—p. 183.

Improved Technic for Test for Bile Pigments in Urine—Silberstern reports that the ordinary iodin test is made more sensitive and reliable if the iodin is dissolved in chloroform or ether instead of in alcohol. He uses 0.5 part of iodin to 76.5 parts of chloroform, shakes up 1 c.c. of this iodin solution with 2 to 4 c.c. of the fluid to be examined and sets it aside. This is more convenient than estimation from the mere line of contact between the fluids. A green tint as compared with the mother solution is the positive response.

Acta Chirurgica Scandinavica, Stockholm

April 29, 1922, **54**, No. 5

*Invagination After Gastro-Enterostomy. S. Lundberg.—p. 423.
*Hematoma in Sheath of Abdominal Rectus Muscle. E. Perman.—p. 434.
Infant Surgery. S. Johansson.—p. 455.
Spontaneous Rupture of Bladder. N. A. Nicolaysen.—p. 507.

Retrograde Invagination After Gastro-Enterostomy—Lundberg compares with the necropsy findings in his case, six cases he has found in the records in which the upper portion of the jejunum had slipped backward inside the efferent loop. The invaginatum in his case was 20 cm. long, and showed signs of gangrene. Pain and vomiting had been the first sign of trouble. The vomit finally contained blood. The woman died the fourth day. The five patients were all cured who were operated on in from eighteen to forty-eight hours, although the intussusception had not been recognized beforehand except in a case in which it was a recurrence.

Hematoma in Sheath of Rectus Muscle—In one of Perman's 11 cases the hematoma was the common professional injury early in cavalry training. In some of the others indirect trauma was known. Fifteen of the total 20 cases he has compiled were in women, all but one over 35. The correct diagnosis was made before the operation only in 6 cases. The severe pain, tenderness, muscular rigidity, nausea and vomiting, the absence of any direct trauma, and the disregard of the patient's statements as to mild pain following lifting, coughing, overexertion—all mislead the diagnosis. The period of mild pain may last for some time before the acute clinical picture develops. One patient was a hemophiliac, one a hard drinker. Torsion of an ovarian cyst had been assumed in 6 cases, appendicitis or ruptured tubal pregnancy in some of the others. A yellowish edema in the subcutaneous tissue was noted in 3 cases. In 5 there was suggillation. In 3 cases the hematoma subsided under conservative measures alone, but evacuation of the hematoma shortened the healing time materially in the others, and infection was never observed in these 20 cases. An abscess developed from the hematoma in a further case in which the lesion had followed a kick from a horse. The article is in English.

Operations on Infants—Johansson's profusely illustrated report (in English) of operations on infants includes 45 for harelip or cleft palate, 2 cases of atresia of the small intestine, neither infant surviving, and 8 cases of recovery after correction of deformity of the rectum and 104 operative cases of inguinal hernia, all but 4 in boys. He believes in operating early for inguinal hernia in an infant. In his total 115 cases, strangulation had occurred already in 16 per cent. There is also the liability to a vicious circle from gastro-enteritis. The only contraindication he admits is a weight less than 3,000 gm. He operates rapidly, his average time was eleven minutes, always under general anesthesia. In 11 cases of septic osteomyelitis, 9 were cured by the intervention.

In the 6 cases of coxitis the cure was realized without resection although 3 were very severe. In one nothing but an extension bandage had been applied. His impression is that an autogenous vaccine tends to shorten the course and limit the big surgical procedures especially with resection of joints. The whole head of the femur was absorbed in one case. All the others healed with only slight functional derangement. These coxitis cases proved very instructive, he says, as they showed that conservative and expectant treatment is justified in infants in many cases in which otherwise, according to prevailing surgical principles, more radical treatment is indicated. His experience with burns teaches the necessity for hospital treatment for burns in children, even slight burns. The prognosis is unfavorable even with burns of slight extent and intensity. All the 6 infants in this

group finally recovered He adds that the weight dropped by 200 to 400 gm in 40 per cent of 98 infants operated on under general anesthesia, but this drop was transient The temperature usually runs up for a day or two, but this is of no consequence Pediatric care is so important for infants that he advises having the surgeon come to the children's clinic for the operation, rather than taking the child to the adult department In a case of purulent pyelonephritis in a 5 months infant, he exposed both kidneys and found them studded with miliary abscesses He drained the pelvis Instances are on record in which a cure was realized by this, but this child died the same day

Spontaneous Rupture of Bladder, Healing Without Operation—Intraperitoneal rupture of the bladder was diagnosed in the man of 47 from the sudden pain, intense desires to urinate and impossibility to void a drop of urine There had been no trauma but there was a history of old syphilis The fluid drawn by catheter the second day resembled a peritoneal effusion, containing only 1 33 per thousand urea while the blood serum fifty hours after the first symptoms, contained 2 21 per cent urea An immediate operation was advised, but this was refused because the condition seemed hopeless, the man apparently moribund The next morning there was some improvement and 600 c c of actual urine was voided It contained 9 per thousand urea, but only 1 per thousand albumin The uremia rapidly declined and the general condition improved to correspond He was discharged in good condition the thirty-third day The man had been under treatment for the last four years for syphilitic atrophy of the optic nerve, his syphilis dating from twenty-three years before and there had been occasional slight urinary disturbance for several years The patient probably would not have survived an operation Over 50 per cent of the operative cases of rupture of the bladder terminate fatally (In German)

Hospitalstidende, Copenhagen

May 10 1922 **65** No 15

*Ileus from Congenital Malformations E Dahl Iversen—p 237 Concn Centering the Roentgen Tube A O Wolff—p 242

May 16 1922 **65**, No 16

*Fibro Adenoma in Male Breast H Rud—p 253 Concn No 17 p 269

Ileus from Congenital Malformations—Summarized, July 15 p 254

Fibro-Adenoma in Male Breast—Rud quotes Williams' Palermo's and others statistics reporting 6 benign to 25 malignant tumors in the male breast in 2,422 mammary tumors, 14 per cent benign in 751 tumors in male breast and so on In Denmark 2 of 42 benign mammary tumors were in men and 5 of 330 malignant ones Rud has found only 4 instances on record of a tuberculous tumor in the male mamma and 10 of a syphilitic tumor He gives the details of 5 cases in which he removed a fibro-adenoma of the male mammary gland, his patients were all between 18 and 22 Some of the growths were diffuse, others circumscribed Gynecomastia is usually bilateral and mastitis generally rapidly subsides In his cases there was a history of trauma in 4, the interval before the tumor was noticed ranged from three weeks to eight months In the total of 60 cases he has compiled, trauma is mentioned too often for it to be a mere coincidence and mastitis had preceded the tumor in the majority Treatment is imperative, rest and moist heat for the mastitis, and removal of the benign tumor as it usually continues a progressive course and is liable to become malignant In doubtful cases, he urges radical mammectomy with removal of glands and fat tissue in the axilla Even if an excised scrap seems to be benign, there may be malignant tissue elsewhere But as a rule the extirpation of the tumor itself is sufficient, warning of the necessity for watching for any signs of recurrence If the tumor is not circumscribed, he advises removing the entire mammary gland

May 26 1922 **65** No 18

Trauma of Spinal Cord with Unusual Course A V Neel—p 285 Cont'd
Rupture of Bladder During Expression of Urine P Zachariae—p 293

June 6 1922, **65** No 20

*Differences in Mode of Life in Town and Country P Heiberg—p 317
Bleeding Angioma in Kidney Two Cases A Sennels—p 329

Rupture of Bladder During Expression of Urine—The woman had been unable to void the bladder spontaneously after delivery, and this was aided by compression from without The fifth day symptoms of peritonitis developed and laparotomy revealed a large rupture in the fundus of the bladder although the urine had been constantly free from blood and attention had not been called to the bladder He has found only one analogous case on record, this was a spontaneous rupture as the woman stooped over, the ninth day after delivery The bladder was probably overfilled, and this is perhaps the explanation of Zachariae's case

The Diet in Town and Country—Heiberg's comprehensive statistical tables compare conditions in regard to nourishment and expense in rural and industrial life

Hygiea, Stockholm

May 31 1922 **84**, No 10

*Food of Factory Workers in Sweden E Abramson—p 395

Food of Factory Workers—The conditions are compared of workers who eat at home and those eating at the free common dining room supported by a certain factory owner The calories actually consumed, the differences with age, sex and work, the expense per capita, etc, are considered Fourteen tables give data for comparative research in this line

Norsk Magazin for Lægevidenskaben, Christiania

June 1922 **83**, No 6

*Uncontrollable Vomiting of Pregnancy K Brandt—p 425
Erythroblastosis in an Infant O Jervell—p 434
*Acute Pancreatitis K Haugseth—p 443
Fracture of Cervical Vertebrae from Indirect Force F Harbitz—p 444
Dangers of Spinal Anesthesia S Widerøe and S Dahlstrøm—p 450
Infusion of Salt and Sugar Solutions S Widerøe—p 454

Uncontrollable Vomiting of Pregnancy—Brandt says that the treatment of this condition in his service has been so uniformly successful that he regarded it as almost infallible, until two recent fatal cases confirmed anew that there is nothing certain in medicine He keeps the woman in bed, strictly isolated with rectal drip of 2 or 3 liters of saline, and every evening 3 gm of sodium bromid in 100 gm water, by the rectum with absolutely nothing to eat or drink for a few days recording the pulse temperature and amount of urine, and the amount and character of the vomit As long as the urine total kept above 600 to 800 gm and the pulse below 100, he was serene The fetus cannot be incriminated alone for the intoxication, as in one of his 2 fatal cases of uncontrollable vomiting the supposed pregnancy did not exist Only a hydatidiform mole was found in the uterus of the sextipara Cachexia of unknown cause dominated the clinical picture in this case, the interval since the last menstruation had been only two months when first seen, but the debility had been noted before this In another case of uncontrollable vomiting with impairment of vision and mental confusion, gradual improvement followed induced abortion but the woman still has multiple neuritis and a tendency to psychoneurosis, and is still in bed the sixteenth week In a fourth case, the previously healthy woman began to vomit at the third week of pregnancy and systematic treatment was begun the eighth week Her condition did not seem serious, the urine totaled 900 gm but the sixth day the pulse was 120 and two days later 134 The ninth day she became blind, and then the uterus was evacuated She died the next day The abortion had been delayed too long after the warning of the acceleration of the pulse

Acute Hemorrhagic Pancreatitis—Haugseth adds another to the few cases on record of recovery after operative treatment The pancreas felt swollen and hard but all the symptoms from it slowly subsided after removal of the gallbladder, which contained numerous gallstones Drainage tubes down to the pancreas and to the stump of the cystic duct relieved the pain, and gradual recovery followed Small scraps of necrotic tissue were expelled through the pancreas fistula, but the tube could be discarded the fifth week

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POSTOPERATIVE LUNG COMPLICATIONS *

ISABELLA C. HERB, M.D.
CHICAGO

Scientific investigation and clinical experience agree in demonstrating that the causes which underlie the production of postoperative lung complications are manifold, and the best means of obviating them is still a desideratum.

Clinical reports indicate that lung complications most frequently follow abdominal operations, especially stomach, gallbladder (upper abdominal) and pelvic work, with carcinoma of the stomach furnishing the largest mortality.

A review of the records of lung complications following operations performed in the Presbyterian Hospital of Chicago was prompted by a desire to establish, if possible, the role which the anesthesia played in their causation.

Does the anesthetic contribute to the result? Does one anesthetic contribute to it more than another? Pathologic reports indicate that the anesthetic stands rather as one member of a group of agents which in general produce a similar clinical picture, nevertheless, the anesthetic should be carefully selected and judiciously administered.

GENERAL CONSIDERATIONS

In dealing with the process of infection through the upper respiratory tract, we have to reckon with the organisms usually inhabiting the mouth, throat and nose (*Staphylococcus albus* and *aureus*, diphtheroids, pneumococci and occasionally influenza bacilli and streptococci), colonizing in the lung epithelium. Conditions that might predispose to or influence such a contingency are general feebleness, especially in the aged, or lack of resistance in the individual, combined with a concentrated ether vapor, which is capable of destroying the protective epithelium, making colonization possible. That ether is likely to produce respiratory complications is questionable, particularly when a good anesthetic ether has been used and properly administered. The dreaded "mucus inundation," so frequently discussed by English authors, is certainly not witnessed in a properly conducted open administration. A too concentrated vapor during induction is responsible for the large majority of such accompaniments. Pulmonary lesions found after experimental etherization [1] can be satisfactorily accounted for by the concentration of the ether vapor. Dresser found that 'the ether vapor within the closed mask sometimes reached a concentration as high as 34 per cent, while 6 or 7 per cent is the strongest concentration which can be inhaled without irritation to the air passages." He regards any concentration of vapor which cannot be inhaled by a conscious patient without coughing as harmful to the lung epithelium. That ether is the only cause of pneumonia following its administration is contrary to clinical observation. The first deep note absolving anesthesia by the ether route as being responsible for all lung complications was sounded when Gottstein's report in 1898 from von Mikulicz' clinic in Breslau showed that lung complications as frequently followed local as general anesthesia. His studies have been verified by more recent investigators.

J. Frederick W. Silk [2] of London protests against the misleading term "ether pneumonia," which is still in vogue with certain writers. From August, 1915, to March, 1919, Silk was employed in visiting the principal war hospitals in the United Kingdom and the sick base at Malta, with a view to superintending and reporting on the administration of anesthetics. A thousand visits were paid to about 200 hospitals. "The complaints of postoperative bronchial and pulmonary troubles were frequent, and, in accordance with traditional teaching were set down offhand to the anesthetic, especially when ether had been used." Silk observed that the complaints came from certain hospitals, and these troubles chiefly occurred in the practice of certain surgeons, and frequently the staffs of other hospitals in the immediate neighborhood were never troubled in this manner. In the work of individual surgeons, Silk was suspicious that an element of simple sepsis had to be considered, as in one hospital a half dozen patients had high temperatures for two or three days after operation before pulmonary symptoms appeared.

Postoperative pneumonia is frequently a lobar pneumonia, due to emboli which have entered the circulation at the site of the operation. The time at which the symptoms develop varies from a few hours to a week or more. They are sudden in their onset with pain in the chest, elevated temperature, cough and quick respiration and pulse. As a rule, constitutional disturbance is not great. Homans reported the consolidation of an entire lobe, following pulmonary infarction. This author says: 'If such instances of obvious embolic infarction occur, may not others unrecognized serve as the origin of pneumonia, abscess or gangrene?' Bibergeil reported a case of lobar pneumonia in which multiple emboli were found in the pulmonary artery. Fractures of the long bones are occasionally

* Chairman's address read before the meeting on anesthesia in the Section on Miscellaneous Topics at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Gatch, W. D.: The Use of Rebreathing in the Administration of Anesthetics, J. A. M. A., 57: 1593 (Nov. 11) 1911. Dresser, Bull. Johns Hopkins Hosp., 6: 7, 1895. Poppert, Deutsch. Ztschr. f. Chir., 67: 505, 1902. Offergelt, Beitr. z. klin. Chir., 83: 505, 1907.

2. Silk, J. F. W.: Am. J. Surg., 34: 280 (Nov.) 1920.

followed by fat emboli, which produce infarcts of the lungs, the symptoms of which are so similar to pneumonia that it is sometimes difficult to differentiate the two

In addition to the factors already mentioned, others doubtless come into play, such as excessive air limitations during etherization and the adoption of the same posture for a protracted period after operation, so that mucus plugging and hypostatic congestion are favored Aspiration from the mouth or pharynx of foreign substances, both solid and liquid, weak heart action with low blood pressure producing hypostatic congestion, generalized sepsis, cooling of the body surface, diminished lung expansion caused by pain or tight bandages, and morphin, which allays the reflex excitability of the air passages and thereby favors the retention of aspirated material, all contribute their quota to lung complications Undoubtedly many are secondary to some preexisting bronchial or lung affection, the effect of the anesthetic being secondary In thirty-five of the fifty-five cases reported by Armstrong,[3] a septic focus in some part of the body was present before the development of the lung complication

Patients who have painful abdominal wounds refrain from deep breathing and coughing, which favors basic engorgement of the lungs and the retention in the bronchi of blood, septic matter or vomitus which may have passed into the larynx It is quite conceivable that the use of imperfectly cleaned rebreathing bags, tubes and masks may favor the occurrence of lung complications, particularly if the preceding patient had a recent acute mouth, throat or lung infection Postoperative pneumonia may be caused by bacteria or their toxins, carried through the lymph or blood stream after operation on infected tissue, or by exacerbation of preexisting focal infections Lung abscesses following tonsil and adenoid operations are held by some observers to be embolic in their origin, but the aspiration of septic material or fragments of tonsillar tissue directly through the air passages into the alveoli is a much more probable cause

Preventive treatment of respiratory complications following operation is an exceedingly important consideration Aspetic technic and a minimum traumatism of the tissues during operation decrease the possibility of thrombosis and embolism The anesthesia should be as light and short as possible No solid food should be allowed for at least six hours before operation The stomach should be aspirated in emergency operations The mouth and throat should be disinfected as far as possible with a mild wash containing alcohol The head should be turned to the side to allow mucus to escape and prevent the aspiration of vomitus The operating table should be covered by thick, dry pads and the patient by blankets to prevent loss of body heat during the operation and when being conveyed through halls and elevator shafts Vierordt[4] gives eleven calories an hour as the normal elimination of heat by the lungs, and ninety calories by the skin When these figures are contrasted, the necessity of preventing the loss of heat by the skin through radiation, evaporation and conduction is apparent

The side posture during tonsil and adenoid operations is desirable, as it prevents blood from flowing into the trachea and the aspiration of infected tissue into the lungs Respiration should not be hampered by tight bandages or unrelieved pain following abdominal operations, as the normal descent of the diaphragm is inhibited, thereby interfering with pulmonary ventilation, coughing and expectoration In mouth, jaw and throat operations, an early awakening from the anesthetic is desirable, so that a semirecumbent or sitting posture may be assumed, to assist in clearing the bronchi of aspirated blood, pus or tissue

3 Armstrong Brit. M J 1 1141 1906
4 Vierordt Daten und Tabelen fur Mediziner

ANALYSIS OF A SERIES OF CASES

In a continuous series of operations performed in the Presbyterian Hospital of Chicago, lung complications occurred in 107 patients, fifty of whom died There were thirty-one females and seventy-six males, and the ages ranged from 5 months to 90 years Twenty-six patients developed pulmonary emboli, twenty-one of whom died, a mortality of more than 80 per cent There were fifteen males and eleven females in this series The ages ranged from 27 to 75 years The time of development was second day one, third day, two, fourth day, three, fifth day, three, sixth day, three, seventh day, four, tenth day, three, twelfth day, two, thirteenth day, one, seventeenth day, one, twenty-first day, one, twenty-fourth day, one, and twenty-eighth day, one The heart findings before operation were negative except in two patients who had mitral murmurs, and one who had a myocarditis The lung findings were all negative except in one patient, who had an old healed tuberculosis One patient, who suffered very severe electric burns about the genitalia and arm, developed two embolic infarctions, one on the fourth and one on the sixth day following the removal of necrotic tissue and skin grafting Another patient developed a thrombophlebitis and lung infarct on the tenth day following a cholecystectomy, and a year later an embolism on the fourth day following the repair of a ventral hernia of several years' duration Both of these patients recovered Three emboli followed thrombophlebitis The operations were herniotomy, five, suprapubic prostatectomy, five, cholecystectomy, one, appendectomy (gangrenous or ruptured), two, hysterectomy, one, ovarian cysts, two, ectopic gestation one, Porro cesarean section, one, panhysterectomy, one, resection of the bladder for carcinoma, one, ruptured uterus, one, osteochondroma of ribs, one, gastrostomy, one, varicose veins, one, carcinoma of the stomach, one, and burns one Ether was administered twelve times, gas-oxygen-ether thirteen times, and a local anesthetic once

Lung Abscess—Only the abscesses which developed after operations performed in the Presbyterian Hospital of Chicago are included in this series There were four cases One developed fourteen days after drainage of an infected gallbladder, one occurred on the thirteenth day after the removal of a ruptured, gangrenous appendix, and two followed tonsillectomies in adults One of the latter patients had a turbinectomy under local anesthesia, followed by a tonsillectomy under gas-oxygen The latter patient was anesthetized with ether, and it was known at the time of operation that she aspirated a fragment of tonsillar tissue The former developed a lung abscess on the fifth day, and the latter on the fourth day after operation The last patient recovered and the other three died a mortality of 75 per cent The lung findings were negative in all before operation One tonsil patient had a systolic blow in the aortic region Two were given ether, one, gas-oxygen-ether, and one, gas-oxygen

Pneumonia—There were seventy-six cases of pneumonia, with forty-eight deaths, a mortality of 63 per cent These figures include eight cases of pneumonia which were really terminal, as they occurred in patients with carcinoma of the esophagus, in whom gastrostomy was made on account of starvation It also includes four cases of pneumonia which followed the extraction of foreign bodies from the bronchi (tacks, screws, bullets, etc) Excluding these twelve, there remain thirty-six, a mortality percentage of 47 3 Twenty-five patients had some form of lung lesion before operation, and seventeen had heart lesions

Stomach—There were 153 operations on the stomach, nine of the patients developed pneumonia The ages ranged from 42 to 75 years, all were men, and with one exception were suffering with carcinoma of the esophagus or inoperable carcinoma of the stomach The time of development of the pneumonia was second day after operation, one, third day, five, fourth day, one, fifth day, one, and seventh day, one There were eight deaths, a mortality rate of 5 2 per cent It is interesting to note that all of these patients were men, and all but one were suffering from carcinoma One patient had a lung complication, and three had heart lesion before operation

Gallbladder and Bile Tracts—There were 1,381 cases in this series, with ten pneumonias The ages ranged from 48 to 72 years There were four women and six men The time of development of pneumonia was second day, one, third day, five, fourth day, one, fifth day, one, twenty-fourth day, one, and forty-eighth day, one There were six deaths, a mortality rate of 0 4 per cent Two patients had heart lesions, and three had lung complications before operation

Appendectomy—There were 1,560 appendectomies, with nine cases of pneumonia All of these patients were males, and the ages ranged from 2 to 44 years All were suffering with gangrenous or ruptured appendixes There were five deaths, a mortality rate of 0 3 per cent One had a heart lesion, and three had lung complications before operation The time of development of pneumonia was at the end of twenty-four hours, two, second day, one, eighth day, two, sixth day, one, eighth day, one, tenth day, one, and eleventh day, one Seven were given ether, one gas-oxygen, and one a local anesthetic and gas-oxygen

Herniotomy—There were 1,872 cases, with nine pneumonias Eight males and one female comprised this series, and the ages ranged from 5 months to 70 years There were five deaths, a mortality of 0 26 per cent One patient had a heart lesion, and three had lung complications before operation An inguinal hernia in a child, aged 5 months, who was in the early stages of pneumonia, became strangulated, which necessitated an immediate operation This was performed under local anesthesia, except a few inhalations of ether during reduction, as it was impossible to replace the intestine on account of the straining Death occurred three days later It is interesting to note that two patients developed delirium tremens concomitant with the pneumonia, and both died The time of development of pneumonia was second day after operation, one, third day, two, fourth day, one, fifth day, two sixth day, two, and eighth day, one Ether was the anesthetic administered to six, gas-oxygen-ether to two, and local anesthesia to one

Prostatectomy—There were 174 prostatectomies, and nine of the patients developed pneumonia following suprapubic prostatectomy The youngest patient in this series was 50, and the oldest, 90 years of age There were eight deaths, a mortality of 4 6 per cent In analyzing the preoperative conditions of these patients, the high mortality percentage is explainable on the ground that a large majority of these men were suffering with sepsis and some pathologic condition of the lungs, as chronic bronchitis or a myocarditis, cardiac insufficiency, and more or less arteriosclerosis either of the coronary arteries or of the general arterial system Nephritis was also an occasional accompaniment, age and general debility were important factors, especially in the hypostatic type of pneumonia, which developed in from one to four weeks after prostatectomy The time of development of pneumonia was second day, three, fourth day, one, tenth day, one, fourteenth day, one, twenty-sixth day, one, thirty-sixth day, one, and end of fourth week, one Ether was administered to three, gas-oxygen-ether, to one, local anesthetic-gas-oxygen to one and gas-oxygen to four One patient with carcinoma of the prostate died from hypostatic pneumonia following a suprapubic cystotomy and the removal of a small piece of tissue for diagnosis One patient with feeble heart tones and almost complete anuria developed double pneumonia four days after operation

Pneumonia developed after other operations as follows Two after tonsil and adenoid operations, one in a boy, aged 10 years, who had chronic bronchitis and asthma A cellulitis of the hand was drained in a diabetic patient under gas, and three days after pneumonia developed concomitant with a large increase in the sugar content One patient developed pneumonia after a low forceps delivery and perineorrhaphy, one followed a normal delivery on the third day, and one on the seventh day after a currettage for an incomplete abortion Bronchopneumonia developed three days after an ileostomy under local anesthesia for ulcerative colitis This patient had crepitant râles before operation, and was in a very weak, emaciated state This was clearly a terminal pneumonia, as was also the pneumonia which occurred thirty-one days after the removal of a carcinoma from the floor of the mouth There was only one instance of pneumonia following kidney operations, which occurred after the removal of a hypernephroma Three followed osteomyelitis, one, a cleft palate, three, foreign bodies in the bronchi, one, fifteen days after the aspiration of a knee in a patient with streptococcus infection, one, after nerve suture, one, after an extensive plastic operation for roentgen-ray burns, psoas abscess, plastic vaginal work, tracheotomy, exploratory laparotomy in which atrophic cirrhosis of the liver was found, tumor of the spinal cord thyroidectomy and cervical rib One case of pneumonia was clearly an aspiration pneumonia, as the patient vomited solid food on the second day after operation, became alarmingly cyanosed, and recovered, and on the following day symptoms of pneumonia developed Attention is called to the observation that twenty-five had lung involvement and seventeen had heart lesions before the pneumonia complication, while, with the exception of two patients who had mitral murmurs and one a myocarditis previous to pulmonary infarctions, the heart and lung findings were negative, and this was also true of the patients who developed lung abscess No effort was made to designate the type of pneumonia, because it could not be done with any degree of certainty, as

many of the records simply stated "pneumonia", furthermore, the time of development in many instances was determined through a study of the temperature sheets

A woman, aged 29, developed acute miliary tuberculosis twenty-four days after a cholecystectomy, under gas-oxygen anesthesia This patient had tuberculosis of both upper lobes of two years' duration

Attention is called to the remarkable record of 12,045 tonsil and adenoid operations, with only four lung complications, two cases of pneumonia and two of lung abscess, also to the fact that about three times as many men developed lung complications as women in the total number of cases cited

TRAINING IN SOCIOLOGY AND PUBLIC HEALTH AN ESSENTIAL IN MEDICAL EDUCATION*

S W WELCH, M D
MONTGOMERY, ALA

Near the home of my birth, where my youth and young manhood were spent, is one of the foothills of the Appalachian chain, which terminates in Alabama

This mountain stands out boldly against the southern sky I have spent hours in my childhood gazing upon it and wondering what was on the other side In after years when, to the music of a pack of foxhounds and the clatter of a good horse's hoofs, I reached its highest point the thing that interested me most on the other side was not the beautiful plains, streams and wooded country but still higher ranges of mountains in the distance, hiding other things

I have recalled those dreams of my boyhood in my recent study of the work of the Council on Medical Education in its efforts since 1902 to elevate the standard of medical education in the United States The history of this splendid work is as fascinating reading as a romance of the Elizabethan age As in my boyhood experience, when high ground was reached, higher ground came into view, and point after point has been scaled until we stand today on a pinnacle of excellence unexcelled by any other country, but there is still higher ground beyond which we must reach

There has been practically no advance in the teaching of preventive medicine in the last quarter of a century Discoveries of methods of administration and methods of prevention have come forward by leaps and bounds, but they have remained to be learned by the physician after he has taken up his life work and not in that important period when he is preparing for it For that reason, habits of medical thought have not been directed along the lines of preventive medicine, but have been confined almost exclusively to the curative side of the science We shall not reach the highest ground ahead of us until we have introduced into our schools of medical education a course of study which will bring the medical student into easy touch with natural laws governing the transmission and prevention of diseases, the methods to be employed by the health administrators in their control, and the part to be played by the medical profession in the accomplishment of this great task

It is important to recognize that modern attempts to solve, or, at least, to reach an approximate solution of fundamental problems, have led in our own day to the development of a number of comparatively new sciences associated with the basic human needs food, shelter, defense and propagation They are still rudimentary in a large degree and practically unstandardized For this reason they are likely to be lumped together in our minds under the general title of "the social sciences," and to receive from us scant consideration or respect Examined closely, are not every one of these embryonic sciences which deal with the major problems of human existence fundamentally a part of medical science?

Who can say that "a knowledge of the living human body and its many complex normal functions and structures" is more important to the prospective physician than a knowledge of the food substances necessary to keep the body going or to bring it to maturity and productiveness?

Who can say that "a training in dispensaries and hospitals where the student can observe patients suffering from all the more common diseases" is more important to the future practitioner of the healing art than would be a training in courts and prison camps or in legislative halls, where he can study human nature in the raw, as it comes to grips with the problems of life?

If "he needs to be educated in regard to the many and varied forms of remedial agents and procedures which are of generally recognized value," is his need for an education in the many and varied forms of preventive work less imperative or less fundamental?

FIVE ESSENTIALS

If we grant, for the sake of the premise, that knowledge of remedial and preventive methods is of equal importance to the medical student, I am suggesting, for consideration, five essentials in the latter field which should be made a part of his medical education

1 He needs to have a sympathetic understanding of the fundamental human problems in relation to the many complexities of modern life, and must become familiar with the trend of the best thinking along social lines

2 He needs to know the place and function of sanitation in relation to the public welfare, the how and when and why of environmental influence on health In other words, he needs to know when and how to make use of the knowledge of sanitary engineering, not necessarily to be himself a sanitary engineer

3 He needs to be well grounded in the control of the communicable diseases and in bacteriology

4 It is imperative that he should have a knowledge of hygiene, especially in its relation to the social and medical sciences which attempt to improve the race by approximating a solution of the basic problems of human existence, that is, the problems associated with the necessity for food, shelter, defense and propagation

5 He needs to have a knowledge of psychology in its relation to conduct, with regard both to individuals and to groups, in order that he may truly educate both individuals and groups in right habits of action, by supplying motives which appeal to them

The Council on Medical Education and Hospitals is recommending to the American Medical Association at this session that the last two years of undergraduate medical study be devoted to the four majors practice

* Chairman's address read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis, May, 1922

of medicine, surgery, obstetrics and public health The colleges will be asked to pay less attention to courses in special branches during the undergraduate term, and devote more time to the education of medical practitioners

I believe that more attention to the subjects outlined in the foregoing paragraphs will equip men to render a service to the individual and the community which will eventually bring the practice of medicine to a level of achievement undreamed of in the past I believe that men who have received such preparation will be ready after their graduation to practice medicine in cooperation with the many and varied agencies for social betterment, with a greater degree of mutual understanding

CONCLUSION

Let me emphasize the belief that the higher ground toward which we are rapidly moving will afford to administrators of public health a steadily enlarging field of usefulness because of the better understanding by the medical profession of the proper relation between the prevention and the cure of disease, and the appreciation by it of the opportunity to take its proper place of leadership in this great movement toward social tranquility and the improvement of the race

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CLINICAL AND BACTERIOLOGIC STUDY OF ONE THOUSAND CASES OF LOBAR PNEUMONIA

WITH SPECIAL REFERENCE TO THE THERAPEUTIC VALUE OF PNEUMOCOCCUS ANTIBODY SOLUTION PRELIMINARY REPORT *

RUSSELL L CECIL, M D
AND
NILS P LARSEN, M D
NEW YORK

In the fall of 1920, an opportunity arose for conducting an extensive study of lobar pneumonia in the wards of Bellevue Hospital Through the kind cooperation of the directors of the other medical services, all cases of lobar pneumonia admitted to the twelve medical wards were carefully studied from the bacteriologic standpoint with the idea of determining, if possible, the relationship between the exciting agent and the clinical course of the disease The main object of the investigation, however, was to test the therapeutic value of a serum-free solution of pneumococcus antibody [1] This product was first prepared by F M Huntoon,[2] who has described it at some length in a series of recently published articles

The antibody solution is thus prepared by Huntoon

Horses are injected at regular intervals with emulsions of Types I, II and III pneumococci The serum after a number of injections develops protective antibodies To obtain a serum which protects mice against 1 000 000 lethal doses or more of Type I is readily accomplished It is more difficult to obtain as high a protective power for Type II and against Type III a serum can seldom be obtained which protects against more than 100,000 fatal doses

To this serum is added an equal volume of a heavy emulsion of living pneumococci Types I, II and III The mixture is placed at 37 C for one hour or 20 C for twelve hours, and then centrifuged The sediment is washed with salt solution to rid it of horse serum The washed sediment is emulsified in salt solution containing 0.25 per cent sodium bicarbonate and heated to 55 C for from thirty minutes to one hour This causes dissociation of the pneumococcus (antigen) and antibody The mixture is centrifuged, and the supernatant fluid removed, chilled, recentrifuged and finally filtered through a filter candle The final solution, which contains only 0 035 mg of nitrogen per cubic centimeter is in many lots able to protect mice against as many fatal doses of pneumococcus Types I, II and III as the original serum from which it was made

This preparation is therefore a practically serum-free, aqueous solution of specific pneumococcus antibodies It contains protective substances against pneumococcus Types I, II and III equal in amount to potent polyvalent antipneumococcus serum, yet is almost entirely free from the proteins of horse serum It also contains, in addition to antibody, a small amount of pneumococcus protein which may conceivably act in the capacity of a vaccine and thereby induce a certain amount of active immunity

In some experiments which will be published later, the therapeutic value of pneumococcus antibody solution has been tested in experimental pneumococcus pneumonia in monkeys The results of these experiments are in agreement with protection tests on mice The most striking results were observed in experimental pneumococcus Type I pneumonia Following the injection of antibody, pneumococci immediately disappeared from the blood, and the animal made a rapid recovery When antibody was administered to monkeys that had been inoculated with lethal doses of pneumococcus Type II, the results were not so striking A certain number, however, were saved by this mode of treatment In the case of experimental Type III pneumonia no benefit whatever could be obtained by treating the infected monkeys with antibody solution Since the antibody solution displays its highest protective power in mice against pneumococcus Type I, next highest against pneumococcus Type II and least against pneumococcus Type III, it would appear that the beneficial effect induced by its administration is, in large measure, proportional to the amount of protective substance present

CLASSIFICATION OF CASES

An effort was made to determine the type of infection in every case of pneumonia in the series For one reason or another this effort was unsuccessful in some instances, but in the majority of cases (92 per cent) the exciting agent was isolated

The mouse method was used almost exclusively in the examination of sputum Agglutination and precipitation tests were carried out with the mouse exudate and at the same time cultures were made on blood agar plates from both the heart's blood and peritoneum of the mouse Whenever the readings from the mouse exudate indicated pneumococcus Type IV or atypical pneumococcus Type II, colonies were fished from the plates and the pneumococcus was retyped from the broth culture Typings from cultures were also made whenever the mouse exudate gave a doubtful reaction Practically all fatal cases were checked with postmortem cultures

All cases of clinical pneumonia from which a pneumococcus was isolated were included in the series

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* Read before the Section on Practice of Medicine at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

* From the Second Medical (Cornell) Division and the Pathological Department of Bellevue Hospital and the Hygienic Laboratory of the U S Public Health Service This study also received financial aid from the Metropolitan Life Insurance Influenza Fund

1 The pneumococcus antibody olution employed in this work was supplied by the Mulford Laboratories

2 Huntoon F M J Immunol 6 117 (March) 1921

Practically all of these were lobar in type Cases with frank consolidation of one or more lobes were also included, even if cultures failed to reveal pneumococci A few cases of *Streptococcus hemolyticus* pneumonia were encountered in which the signs were not absolutely frank but in every other respect the patients presented the picture of a lobar pneumonia They were therefore included in the series

TABLE 1—BACTERIOLOGIC CLASSIFICATION OF ONE THOUSAND CASES OF LOBAR PNEUMONIA

Organism	Number of Cases
Pneumococcus Type I	320
Pneumococcus Type II	150
Pneumococcus Type III	133
Pneumococcus Type IV	231
Streptococcus hemolyticus	52
Streptococcus viridans	22
Bacillus influenzae	3
Bacillus of Friedlander	4
Staphylococcus aureus	2
Unclassified	83
Total	1 000

In Table 1 the 1,000 cases included in the present study have been classified according to the type of micro-organism isolated In cases of mixed infection the pneumococcus has been given the preference, that is if the sputum showed both pneumococcus and streptococcus, the case has been classified as a pneumococcus pneumonia Cases in which pneumococcus was absent and streptococcus was associated with the influenza bacillus have been classified as streptococcus pneumonia It will be seen from this table that out of 1,000 cases studied, 917 could be classified bacteriologically In eighty-three cases either no pathogenic organisms were found in the sputum, or for some reason or other the sputum was not examined

Of the 917 classified cases, 834, or 90 per cent, showed some type of pneumococcus The remaining 10 per cent were mostly streptococcus pneumonias There were three cases in which *Bacillus influenzae* was isolated in pure culture from the sputum, there were four cases of Friedlander bacillus pneumonia, and two cases of *Staphylococcus aureus* pneumonia

TABLE 2—CLASSIFICATION OF EIGHT HUNDRED AND THIRTY FOUR CASES OF PNEUMOCOCCUS PNEUMONIA

	Number of Cases	Incidence per Cent
Pneumococcus Type I	3 0	38 4
Pneumococcus Type II	150	18 0
Pneumococcus Type III	133	15 9
Pneumococcus Type IV	231	27 7
Total	834	

Table 2 shows the incidence of the various types of pneumococcus pneumonia Out of a total of 834 pneumococcus pneumonias, 320, or 38 4 per cent, showed pneumococcus Type I, 150, or 18 per cent, showed pneumococcus Type II, 133, or 15 9 per cent, pneumococcus Type III, 231, or 27 7 per cent, pneumococcus Type IV When these figures are compared with the figures of Dochez and Gillespie,[3] it will be seen that the incidence of Types I, III and IV pneumonia in the present series is slightly higher than theirs, while that of Type II is much lower At the conclusion of the first year of this study, the incidence of Type I pneumonia was 42 per cent of the total pneumococcus group Type I pneumonia is therefore the commonest type of pneumococcus pneumonia, Type III the rarest

Space will not permit a discussion in this paper of streptococcus pneumonia and the other more unusual forms They will be considered in detail in a future article Our interest was centered chiefly in pneumococcus pneumonia, since the agent which we proposed to test therapeutically was directed against this variety

METHOD OF CONDUCTING ANTIBODY EXPERIMENT

In order to determine the therapeutic value of pneumococcus antibody solution, the twelve medical wards of Bellevue Hospital were divided into two groups In six wards, all cases of lobar pneumonia were treated with the antibody solution The other six were used as control wards In these wards, patients with pneumonia received no antibody, but in other respects were treated in practically the same way as the patients receiving antibody It was first determined that no selection of any kind was practiced by the admitting office in assigning patients to the various wards In Bellevue Hospital, new patients are distributed by rotation, without regard to the character or severity of the disease The control seemed, therefore, to be a fair one from every point of view

RESULTS OF TREATMENT WITH ANTIBODY

Antibody treatment was started as soon as the diagnosis of pneumonia was made The solution was given intravenously in most cases, the technic being similar to that of serum administration The dose was from 50 to 100 c c given once, sometimes twice, occasionally three times a day

The reactions produced by this solution have been one of the most striking features of the study, and deserve especial attention The typical reaction may be thus described There is no immediate reaction From twenty to forty minutes after the injection the patient begins to shiver and is soon in the midst of a hard chill The cyanosis and dyspnea become more marked, and the patient often shows extreme anxiety The chill lasts from fifteen to thirty minutes At its conclusion, the patient complains of fever, and the temperature may have risen to 106 F or even to 108 or 109 In rare cases, the temperature may rise to 110 In one case, the rectal temperature was too high to be recorded on the thermometer When the thermometer was removed, the bulb was missing, and a careful reading of the mercury column recorded 113 1 The patient was wildly delirious during this period of hyperpyrexia, but ice packs were followed by a rapid drop, and on the next morning he showed a normal temperature and made an uncomplicated recovery

In a certain number of cases, morphin and atropin have been administered subcutaneously one-half hour before the injection of antibody, with the hope that such a procedure would mitigate the severity of the reactions In general, it may be said that the reaction was somewhat less intense after morphin and atropin, but the effect was not striking An effort was also made to determine what relationship existed between the severity of the reaction and quantity of antibody injected In our experience, the reaction is not directly proportional to the antibody dosage Ten or fifteen cubic centimeters of antibody have in some cases produced sharp reactions, while in other cases 100 or even 200 c c has excited no reaction whatever As a rule,

3 Dochez A R and Gillespie L J A Biologic Classification of Pneumococci by Means of Immunity Reactions J A M A 61 727 (Sept 6) 1913

however, the reactions are somewhat more severe and last longer when large doses are administered

The high temperature usually persists for only a short time from thirty to sixty minutes The rapid fall is accompanied by a profuse perspiration, which often drenches the patient's linen, and which may continue for several hours The fall may be slight but is usually extensive, often reaching normal or even subnormal limits It may be temporary or permanent It is more likely to be temporary if treatment is started early permanent if the injection is given when the crisis is about due In some cases, however, one or two injections appear to abort the infection completely, and the temperature remains normal on the third or fourth day of the disease

These reactions have every appearance of the so-called 'foreign protein reaction" They usually follow each injection of antibody, but tend to become somewhat less severe with each paroxysm

In three cases, the reaction following injection with antibody appeared to be the immediate cause of death In these three patients, the symptoms were very severe chill, followed by high fever (from 106 to 109), delirium, cyanosis, dyspnea, rapid weak pulse, diaphoresis, congestion of lungs, coma and death In two of these cases death was apparently due to cardiac failure In the third case a long continued hyperpyrexia was probably responsible for the fatal termination

TABLE 3—COMPARISON OF DEATH RATE IN TREATED AND CONTROL SERIES

	Antibody Wards			Control Wards		
Type	Cases	Deaths	Rate %	Cases	Deaths	Rate %
Pneumococcus I	158	21	13 3	162	36	22 2
Pneumococcus II	83	23	27 7	67	27	40 3
Pneumococcus III	73	29	39 7	60	24	40 0
Pneumococcus IV	110	18	16 4	121	29	24 0
Total	424	91	21 4	410	116	28 3
Streptococcus etc	48	24	50 0	35	12	34 3
Unclassified	36	14	38 8	47	20	42 5

Treatment with antibody was usually continued until the temperature of the patient came down and remained below 100 permanently Occasionally, one injection was sufficient More frequently, from three to six injections were necessary The average number of injections was 3 6 for each patient, and the total amount of antibody administered averaged 225 c c for each patient

The results of the experiment are shown in Table 3 It will be observed that 424 cases of pneumococcus pneumonia occurred in the antibody wards, and 410 in the control wards Nearly all the patients in the antibody wards were treated with this solution, the only exceptions being patients that were convalescent or who showed signs of cardiac failure on admission These exceptions, however, were counted as "treated" in the statistics given below There was considerable difference in the mortality rate for Type I cases, 13 3 per cent for the 158 treated cases, as compared with 22 2 per cent for the 162 untreated cases In the Type II groups the treated cases showed a death rate of only 27 7 per cent, as compared with the control death rate of 40 3 per cent In the Type III series, the percentage of fatalities was practically the same for the two groups, 39 7 per cent for the treated, 40 per cent for the untreated cases Strangely enough, a considerable difference in mortality rate was noted in favor of the treated Type IV group, 16 4 per cent against 24 per cent Altogether, the treated pneumococcus cases showed a death rate of 21 4 per cent, while the control pneumococcus series presented a rate of 28 3 per cent

Streptococcus pneumonia was not benefited in the least by antibody treatment In fact, the death rate was higher for the treated series (50 per cent) than it was for the untreated series (34 3) The number of cases however, in the streptococcus groups is too small to permit of accurate conclusions

In the small group of unclassified cases, the death rate was slightly lower for the "treated" wards (38 8 per cent) than for the control wards (42 5 per cent), but most of the former group did not actually receive antibody

EFFECT OF ANTIBODY ON BLOOD CULTURES

Blood cultures were taken in 110 cases out of the total pneumococcus series Of these, thirty-one cases or 28 per cent, were positive In several cases of pneumococcus Type I pneumonia, the blood became sterile after one administration of antibody In one case of pneumococcus Type I pneumonia with 146 pneumococcus colonies to each cubic centimeter of blood and a complicating meningitis, three administrations of antibody of 100 c c each reduced the number of colonies to fifteen per cubic centimeter of blood, though the meningitis proved fatal In two fatal cases of pneumococcus Type I pneumonia which were treated with antibody, blood cultures taken at the time of death were sterile Postmortem cultures were taken in all but three of the fatal cases of pneumococcus Type I pneumonia With two exceptions, these cultures showed living pneumococci in the lungs in spite of the previous administration of large amounts of antibody In two of the fatal antibody cases, postmortem cultures showed that Type I pneumococcus had been entirely replaced by *Streptococcus hemolyticus*

In fatal cases of pneumococcus Type II pneumonia pneumococci were recovered from the lungs in spite of the previous administration of large amounts of antibody In two of these cases, antibody failed to affect the number of pneumococci in the blood In one case of pneumococcus Type II pneumonia, blood cultures taken before, immediately after and three hours after the administration of 200 c c of antibody did not show any numerical change On the other hand, in one control Type II pneumonia, the count on three successive days was forty-two, thirty and three colonies per cubic centimeter, respectively, and on the fourth day the blood was sterile One week later, however, the patient developed pericarditis and died

In serious Type III and Type IV pneumonias with positive blood cultures, the repeated administration of antibody failed to influence the colony count

CASES ILLUSTRATING EFFECT OF ANTIBODY TREATMENT

The following cases, selected from the series of cases treated with antibody, will serve to illustrate the character of the reactions and the effect of this agent on the course of the disease They have been chosen, not to illustrate the most striking results, but as examples of various types of reactions

CASE 1—J S a man aged 31, with pneumococcus Type I pneumonia of the left lower lobe, at 1 p m on the second day of the disease received 50 c c of pneumococcus antibody intravenously Twenty minutes later, he had a severe chill, and the temperature rose from 102 to 108 (Chart 1) This

sudden rise was followed by a rapid fall to 103, and by the following morning the temperature read 101 A second injection of 50 c c was given on the third day, and was followed by a less severe reaction The temperature remained below 103 on the fourth day, and no antibody was administered On the fifth day a third and final injection of antibody (50 c c) was given This produced a mild reaction which was followed by complete recovery

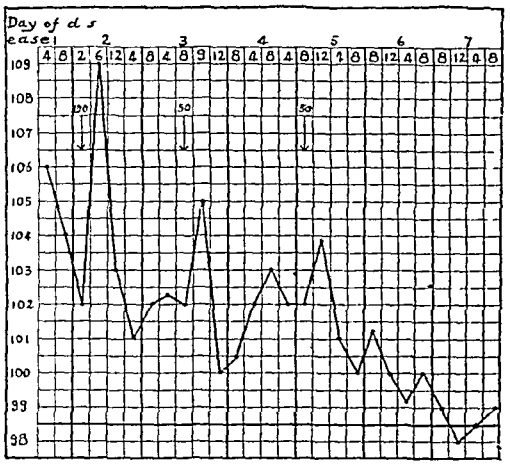

Chart 1 —Temperature in Case 1

This case illustrates well the "stair-step" temperature curve which characterizes many cases of pneumonia treated with antibody The first reaction is severe, and accompanied by a high shoot of temperature With each succeeding injection the reaction is less marked, and the temperature steps down to normal

CASE 2—H D, a boy, aged 15, with pneumococcus Type I pneumonia of the right upper lobe, received the first injection of antibody on the fourth day of the disease Although he received 100 c c intravenously, he showed very little reaction to the antibody, and the temperature did not rise (Chart 2). During that day and the two days following, this patient received in all, eight intravenous injections of antibody seven of 100 c c, the last of 50 c c No reaction of any consequence was noted after any of the injections and the temperature maintained a fairly level plateau Crisis occurred on the seventh day

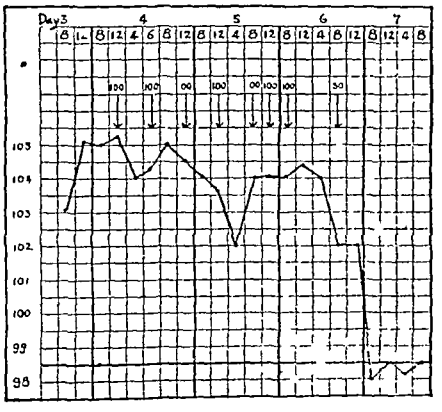

Chart 2 —Temperature in Ca e 2

This case illustrates the comparatively rare type of case in which antibody produces little, if any, reaction The antibody injections induced neither chills nor variations in temperature In this particular case, however, the general condition of the patient appeared to be favorably influenced by the treatment

CASE 3—M R, a man, aged 27, with pneumococcus Type I pneumonia of the right middle and lower, and left lower lobes, received his first injection of antibody on the fourth day of the disease Altogether he received thirteen intravenous injections of 50 c c each Most of these injections were followed by definite reactions, but the temperature never dropped to normal even temporarily (Chart 3) The disease ran a rather long course, with crisis on the eleventh day Ten days later, the patient developed a pneumococcus Type I empyema Thoracotomy and drainage were performed, and the patient eventually recovered

This case exemplifies a group in which antibody is followed by reactions, but in which the temperature does not drop to normal The antibody appeared to exert very little influence on the duration of the disease, though the patient usually appeared more comfortable after the administrations

CASE 4—J P, a man, aged 42, with pneumococcus Type II pneumonia of the right lower lobe, on the third day of the disease received 50 c c of antibody intravenously This was followed by a sharp chill and rise of temperature to 107 4 (Chart 4) During the next few hours the temperature fell rapidly to 100 The following morning, a second injection of 50 c c was given Again the patient reacted with chill and fever of 104 5, and, following this, was free from symptoms

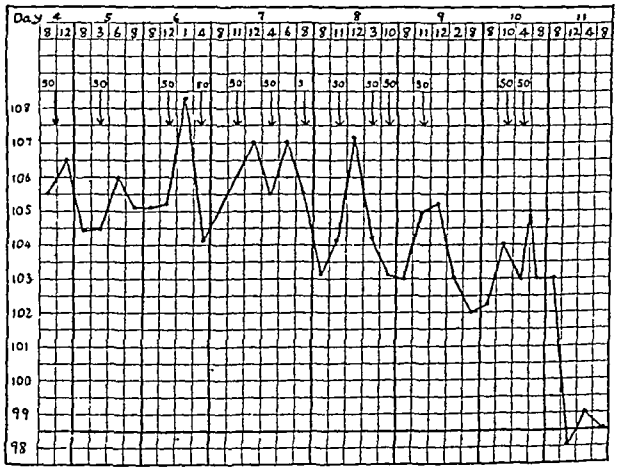

Chart 3 —Temperature in Case 3

This case is a good instance of an abortive pneumonia terminating on the fourth day, a phenomenon so rare with pneumococcus Type II pneumonia that one is disposed to credit antibody for its occurrence

CASE 5—P N, a woman, aged 60 with pneumococcus Type III pneumonia of the right lower lobe, received the first injection of antibody on the third day of the disease She received three injections of 50 c c each on that day, and two injections of 50 c c each on the day following (Chart 5) There was a sharp reaction after the first injection, and there were definite reactions after each of the other four Crisis occurred on the fifth day

This case illustrates a pneumococcus Type III pneumonia that appeared to react favorably to antibody Unfortunately, there were not a great many in this group As pointed out previously, the death rate for Type III pneumonia was not appreciably affected by antibody treatment

CASE 6—F H a man aged 44 alcoholic with pneumococcus Type III pneumonia of the right and left lower lobes received the first injection of antibody on the fifth (or sixth) day of the disease (Chart 6) He received altogether twenty-

eight injections of antibody over a period of eight days The blood culture remained positive, and the patient died of a terminal pneumococcus Type III meningitis

In this case, antibody appeared to have no effect whatever on the course of the disease In spite of huge doses (a total of 1,650 c c) of antibody, pneumococci persisted in the blood stream and the patient died of pneumococcus meningitis

From these examples it will be seen that antibody does not always act in the same way While reactions usually do occur, they may be entirely absent A reaction may follow one injection and be lacking after the next There may be a severe chill or a mild one A rise of temperature may follow an antibody injection, even though the chill did not occur Profuse diaphoresis is sometimes seen without any preceding chill Finally, the antibody may produce a striking effect on the course of the disease, or it may produce no effect whatever In experiments on mice, it is well established that while antibody often protects these animals against 1,000,000 fatal doses of pneumococcus culture, no amount of antibody will protect them if overwhelming doses of culture are injected The same principle probably holds true for man

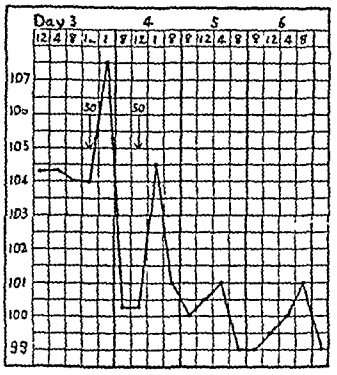

Chart 4 —Temperature in Case 4

No examples of pneumococcus Type IV pneumonia have been included, as the antibody reactions in this group differ in no way from those in the fixed types

EFFECT OF ANTIBODY ON DURATION OF DISEASE

Antibody treatment appears to have shortened the course of the disease in a considerable number of cases In Table 4 it will be noted that in a series of 118 patients treated with antibody on or before the fifth day, thirty-four, or 28 8 per cent , showed normal temperatures on or before the fifth day of the disease, while in 201 control patients admitted on or before the fifth day, only sixteen, or 7 9 per cent , showed a normal

TABLE 4 —DURATION OF PNEUMONIA IN PATIENTS THAT RECOVERED

	Antibody Wards			Control Wards		
	Tot No Tr	T 99	Per Cent	Tot No Adm	T 99	Per Cent
On or before 5th day	118	34	28 8	201	16	7 9
On or before 6th day	143	69	48 2	225	41	18 2
On or before 10th day		91	31 8		118	42 0

temperature on or before the fifth day In a similar way, 48 per cent , or almost half, of the patients admitted on or before the sixth day, had a normal temperature on or before the sixth day of the disease while only 18 2 per cent of the controls reached normal in the same length of time On the other hand, only 31 8 per cent of the treated patients continued to have fever until the tenth day of the disease or thereafter, while 42 per cent of the controls had elevated temperatures for ten days or more

EFFECT OF ANTIBODY ON COMPLICATIONS

Table 5 shows the incidence of complications in the treated and control series In 424 pneumococcus patients admitted to the antibody wards, empyema occurred thirty-one times, with eleven deaths , whereas 410 pneumococcus cases in the control wards were complicated by empyema thirty-two times, with fifteen

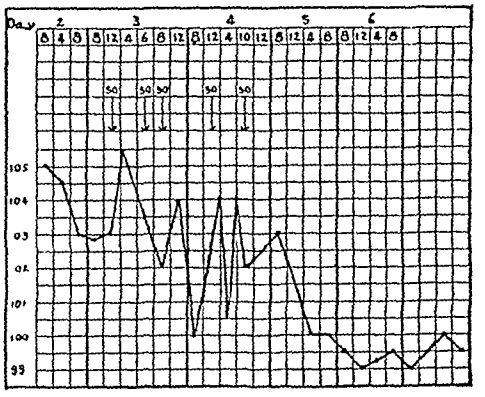

Chart 5 —Temperature in Case 5

deaths Meningitis occurred seven times in the treated series, and eleven times in the untreated Endocarditis or pericarditis was observed six times in the treated

TABLE 5 —INCIDENCE OF COMPLICATIONS IN TREATED AND CONTROL SERIES

	Antibody Ward 424 Pneumonia Cases		Control Wards 410 Pneumonia Cases	
Complications	Total No	Death	Total No	Deaths
Empyema	31	11	32	15
Meningitis	7	7	11	11
Endocarditis pericarditi	6	6	9	9
Arthritis	0	0	2	2
Total	44	24 (54 5)	54	37 (68 5)

cases, and nine times in the untreated cases There were no cases of arthritis in the antibody series, and two cases in the control series Altogether, there were forty-four severe complications in the antibody wards

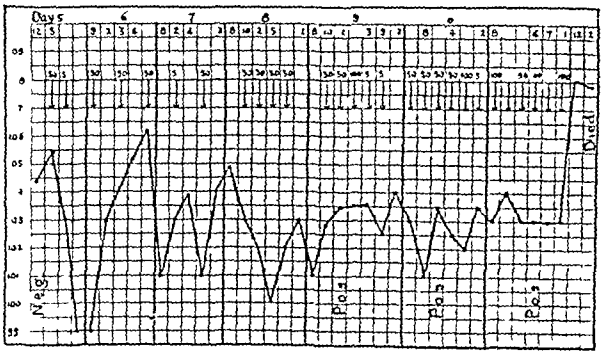

Chart 6 —Temperature in Case 6 *Pos* and *Neg* blood culture positive or negative

with twenty-four deaths (54 5 per cent) and fifty-four severe complications in the control wards, with thirty-seven deaths (68 5 per cent)

From these figures it will be seen that there is no evidence to show that treatment with antibody increases the incidence of empyema or any other severe complication In the case of each of the severe complications

the incidence rate was less for the antibody series than for the control series

RESULTS

From the evidence presented above it may be concluded that pneumococcus antibody solution is a therapeutic agent of considerable power The most striking results are undoubtedly obtained in pneumococcus Type I pneumonia The results in pneumococcus Type II pneumonia are not so impressive, and in pneumococcus Type III cases the antibody solution seems to possess no benefit whatever It would appear from these facts that antibody solution owes its therapeutic value chiefly to the amount of protective substance present Just why a considerable difference in death rate has been observed between the treated and the untreated pneumococcus Type IV pneumonias we are unable to say The beneficial effect of antibody is probably not referable to the shock reactions, otherwise an improvement would be expected in pneumococcus Type III and in streptococcus pneumonia as well as in the other pneumococcus types As a matter of fact, the reactions associated with antibody injections are often very uncomfortable and in certain cases are actually injurious to the patient It has been claimed, of course, that foreign protein reactions have therapeutic value in pneumonia and other infectious diseases There is little evidence, however, in the present study to support such a theory

Patients treated with antibody have never shown any symptoms of serum sickness, and this is a great point in its favor Furthermore, there is no danger of anaphylactic symptoms following the administration of antibody

Perhaps the most important feature of antibody is its polyvalent nature It contains protective substance against the three fixed types of pneumococcus Furthermore, the statistics on Type IV pneumonia indicate that it has some therapeutic value in this type also, probably the result of cross protection In the treatment of 424 pneumococcus pneumonias, the death rate was 21 4 per cent, while, in 410 control cases, the death rate was 28 3 per cent In other words, the figures indicate that in every hundred patients with pneumococcus pneumonia treated there was a saving of seven patients This difference between two almost equal groups of unselected patients, coming from similar environment, during the same seasons, and treated in the same institution, certainly must have some significance

It is possible that considerable benefit could be derived from antibody by administering it subcutaneously In the present study it has been employed in this manner on a number of occasions, and has never produced constitutional reactions Our experience, however, with this form of administration is still too limited to permit of an opinion as to its practical value

SUMMARY

1 In a series of 917 cases of lobar pneumonia in which a definite bacteriologic diagnosis was obtained 90 per cent were of pneumococcus origin The greater part of the remainder were referable to *Streptococcus hemolyticus* or *Streptococcus viridans*

2 In the pneumococcus series, pneumococcus Type I predominated (38 4 per cent) Pneumococcus Type IV was next in frequency (27 7 per cent), pneumococcus Type II (18 per cent), pneumococcus Type III (15 9 per cent)

3 In 424 cases of pneumococcus pneumonia treated with pneumococcus antibody solution, the death rate was 21 4 per cent A control series of 410 cases in the same institution showed a death rate of 28 3 per cent

4 Pneumococcus antibody produces its most striking effect in pneumococcus Type I pneumonia In a series of 156 treated cases the death rate was 13 3 per cent, while a control series of 162 cases showed a death rate of 22 2 per cent A definite but less marked effect was observed in cases of pneumococcus Types II and IV pneumonia which were treated with antibody The antibody solution had no effect whatever on the death rate in pneumococcus Type III pneumonia

5 The death rate of streptococcus pneumonia was not favorably influenced by antibody treatment

6 In the series of patients with pneumococcus pneumonia treated with antibody, 28 8 per cent recovered on or before the fifth day In the control series, only 7 9 per cent recovered on or before the fifth day

7 There were forty-four severe complications in the series of 424 pneumococcus pneumonias treated with antibody, while the control series of 410 pneumococcus pneumonias showed fifty-four severe complications

33 East Sixty-First Street

ABSTRACT OF DISCUSSION

DR F M HUNTOON Glenolden Pa We utilize the principle that antibodies in serum will combine with the bacteria with which the animals were immunized By exposing bacteria to these immune serums, one causes the antibodies to attach themselves to the bacteria Then by heating the sensitized bacteria in an alkaline solution, one can cause the antibody to split off That, in brief, is the method of preparation of these antibody solutions I want to emphasize not only the large number of cases observed but also the adequate control used in this series There is an advantage in the cooperation of institutions for scientific interest Five different institutions had combined resources to gain something of possible scientific value The aim from the start has been to find out whether this material was therapeutically efficient If so, it represented a distinct biologic advance, since we had eliminated the horse serum from consideration The production of serum protein-free solutions has enabled us to do some research on the chemical nature of the antibody An antibody is a definite substance It is not a globulin, and if it is a protein at all it is a peculiar albumin which is not destroyed by alcohol It is not a fatty substance, and it is not injured by trypsin digestion We can say what it is not, but we cannot say what it is

DR NELLIS B FOSTER, New York This antibody extract is being tried experimentally in two institutions in Bellevue Hospital under Dr Cecil, and in the New York Hospital under Dr Connor and myself, both services being parts of the Cornell Medical School In an experiment of this kind it is necessary to have a large amount of data to prove anything at all Last year we had a large number of cases, but at the end of the year we did not feel that we had results that justified making a statement, and at present we do not feel that we have perfect therapeutic measures for treating pneumonia, but we do feel that we are one step farther in developing a substance for treating pneumonia There are statistics on mortality at the New York Hospital for more than a hundred years The mortality has never been lower than 25 per cent During the last two years, it has been materially reduced by the use of this antibody extract, because that is the only material change in treatment during the last two years Still, in the aggregate of several hundred cases of true pneumonia, we do not yet feel certain where we stand Pneumonia is a disease which changes from year to year, and in a city like New York it has a higher mortality than in a rural population

DR WILLARD J STONE Pasadena, Calif I should like to ask Dr Huntoon whether he has reason to believe that the subcutaneous use of this product would be followed by good results

DR. HUNTOON I have no experience to decide the question I know only the laboratory side

DR MARY FREEMAN, Perrine Fla I should like to ask whether there were fatalities from the immediate reaction after the giving of that serum The clinical or medical side is waiting too much for the laboratory I appreciate the work the laboratory is doing, but if physicians will study and heed the symptoms of patients and keep the chest and the back of the arms well covered, remembering the relation of the brachial plexus to the thoracic and other nerves of the chest many a time the giving of an opiate to check the cough will be unnecessary A chill should never be allowed to strike the chest I have the advantage of having a warm climate but, even in Florida after the air cools off it is necessary to warm it In my practice I put a sweater over the nightgown and I apply a hot kaolin poultice For elimination, in my practice I give castor oil and turpentine every day to an adult until resolution sets in If he needs any liver medicine, he gets sodium bicarbonate Atropin is the sheet anchor in pneumonia I start its use in pneumonia before the crisis comes, so that the patient has a blood pressure that will hold him through an ordinarily difficult situation

DR ALEXANDER LAMBERT New York My ward belonged to the control group of which Dr Cecil spoke The feelings of the patient and the result obtained produced an impression even more favorable than the figures show There was, however, a peculiar variation in the different wards Among the controls the percentage varied and the death rate varied from 14 to 64 per cent , but the general totals were exactly as Dr Cecil gave them There has been a great change in the pneumonias in New York City When we had all the alcohol that was desired in life in Bellevue Hospital one third of the 40 000 patients were in the alcoholic wards with or without delirium tremens That made a strong alcoholic group among pneumonia patients and the death rate was 66 per cent. for the alcoholic group and 23 per cent for the nonalcoholic group The type has changed One does not see the thoroughly poisoned chronically soaked alcoholic person in the hospital The change in pneumonia has also been distinct We had two wards of fifty patients each, in one group alcohol was given and the death rate was 40 per cent in the other group alcohol was not given and the death rate was 14 per cent Oddly enough the April pneumonias in New York usually have a higher death rate than do the pneumonias in the winter

DR RUSSELL L CECIL, New York I tried subcutaneous inoculation on some very ill patients to whom I was afraid to give antibody intravenously The results were not striking but I will try it more extensively, and I expect also to try subcutaneous treatment on monkeys In monkeys with experimental pneumonia, our results with antibody treatment were best in pneumococcus Type I cases next best in Type II and worst in Type III As to the fatal reactions If a patient with pneumonia dies within a certain number of hours after an injection of antibody the question naturally arises whether antibody killed the patient In my series there were three deaths probably directly due to the antibody In one case the cause of death was hyperpyrexia In the other two cases the cause was failing circulation As a result of these unfortunate reactions, I have become cautious about giving antibody to older persons or to pneumonia patients late in the disease when they are worn out I have figures based on my series of cases which indicate that the results are much better when the treatment is started early in the disease These patients feel better after the injection of antibody If they have a pain in the side, it usually disappears and they have a general sense of well-being which is quite noticeable The change in the pneumonia death rate of which Dr Lambert spoke is a striking thing In Bellevue Hospital the death rate before prohibition was from 40 to 55 per cent , but the present death rate is only 28 per cent With regard to the leukocyte reactions following antibody injections, I have curves which show a decided leukocytosis which however, is seen shortly after giving the antibody solution, and is only temporary

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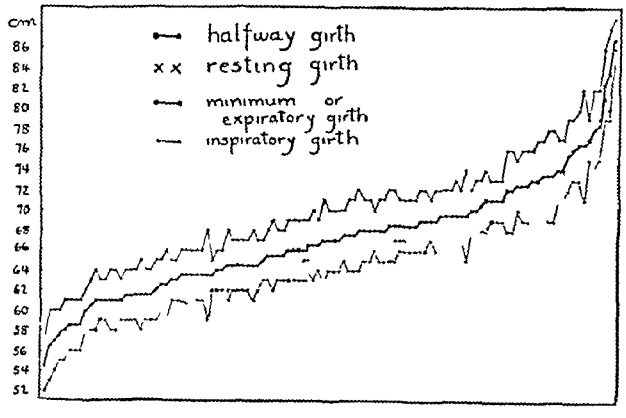
AGAINST MEASURING THE CHEST GIRTH AT REST*

HORACE GRAY M D
BOSTON

Recent biometric evidence that body weight is more closely correlated with chest-girth than with stature [1] brings up anew the ancient questions as to technic

The three levels cannot be entered on here save to state that the axillary has been generally discarded, the mammillary has been used by me in accordance with most medical men, and the xiphoid is very appealing for further study with reference to avoidance of the considerable pectoral muscle and gland tissue in men and women

The moment of the respiratory cycle is the question aroused by the favor accorded by Dreyer [2] to the variously called resting, relaxed, talking, normally breath-



Chest girth nipple level net of 114 private school boys arranged according to size of halfway girth (heavy line) note irregular position of resting girth (indicated by crosses) with relation to minimum or expiratory girth (circles) inspiratory girth light line above

ing and not expanded chest circumference The brief evidence so far presented [3] to indicate the inferiority of the resting girth to the halfway girth (arithmetical mean between the inspiratory and expiratory girths) has seemed to need amplification

The subjects studied composed two normal series one of forty men, the other of 114 private school boys The resting girth was greater than the halfway girth in 18 per cent of the first series of men, equal in 17 per cent and less in 65 per cent , while in the boys' group the respective percentages were 2, 8 and 90 These figures signify that in men generally and in children nearly always the resting girth diverges from the mean girth in the direction of the girth deflated as shown in the accompanying chart

More important is the degree of divergence of the resting girth from the midway girth In the men the average was 0 7 cm , or less than 1 per cent of the mid-

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Read before the Philadelphia Pediatric Society May 9 1922

1 Gray Horace The Relation of Weight to Chest-Girth Stature and Stem Length Judged by the Biometric Coefficient of Correlation Am J Physical Anthrop to be published

2 Dreyer Georges and Hanson G F The Assessment of Physical Fitness London 1920 reprinted by Paul B Hoeber New York 1921

3 Gray Horace and Root H F Weight Prediction by the Formulae of Bornhardt of von Pirquet and of Dreyer Boston M & S J 185 28 (July 7) 1921

way girth while in the children the error was considerable, 1.3 cm., or about 2 per cent. and reaching 3.5 cm., or 4.2 per cent. of the mean girth.

Furthermore, the actual measurement of the resting girth appears to be associated with a somewhat larger error. The facts are that in ten children, each twice remeasured with fresh application of the tape, the first measurement (i. e., the only measurement ordinarily taken) differed from the average of the three successive measurements by 5.7 per cent. for the resting girth, versus 4.9 per cent. for the mean.

The conclusion is that the chest girth should not be measured at rest, except as a necessity in children who do not breathe freely, as occurs not infrequently under 6 years of age. Measurements are better taken at both full inspiration and complete expiration, and the average used as the midway girth.

32 The Fenway.

THE TREATMENT OF TUBERCULOUS CERVICAL ADENITIS*

RICHARD H. MILLER, M.D.
Surgeon to Outpatients, Massachusetts General Hospital; Instructor in Surgery, Medical School of Harvard University
BOSTON

From the time when Aristotle first mentioned lymphatic vessels, down through the ages to the time when Eustachius discovered the thoracic duct[1] and when, in the time of Edward the Confessor, the power to heal scrofula, or the "king's evil," was ascribed to kings and to the seventh son in a family, through the researches of Sappey in the middle of the nineteenth century—through all these times to the present day—diseases and swellings of the lymphatic system have aroused the keenest interest. Our knowledge is more accurate than it was in the times when scrofula was thought to be due to a faulty mixture of body fluids with an acid substance, called "acrimonia scrophulosa" floating in the blood, or when it was thought by the best authorities to be due to retained semen, and curable by marriage,[2] nevertheless, to this day tuberculosis of the lymph glands is a subject to which every additional bit of knowledge may be of some value.

It is well here to review briefly the anatomy of the lymphatic glands of the neck, and in this I am making use of the valuable work of Wood.[3] These glands form two main groups, the superficial and the deep. The superficial may be divided into the suboccipital, the mastoid or retro-auricular, the parotid, the submaxillary, the facial, the submental, and the retropharyngeal glands. The deep or substernomastoid, from fifteen to thirty in number, extend from below the ear downward, under the muscle, usually to about where the omohyoid crosses. There is a subgroup, under the posterior border of the sternocleidomastoid, called the external. These may extend down as far as the supraclavicular glands. In addition, there are a few superficial glands along the external jugular vein, and two or three inconstant ones on the anterior jugular vein. Lastly is the supraclavicular group, usually considered an auxiliary of the deep glandular chain, but Wood believes that in most cases these do not anastomose with the other cervical glands, and they empty independently into the jugular trunk. This is important in that, if it is true, the supraclavicular glands do not form a line of communication between the mouth and the pharynx and the apex of the lung and do not, therefore, account for the occurrence of apical tuberculosis by direct extension from above. The above mentioned superficial glands, save the supraclavicular, all drain into the deep glands, and the latter into the jugular trunk, which empties into the vein on the right and the thoracic duct on the left. The drainage of the faucial tonsil is important, and, according to Wood,[4] the lymph therefrom passes to one of the uppermost of the deep glands, beneath the anterior border of the sternocleidomastoid just where it is crossed by the posterior belly of the digastric muscle. The pharyngeal tonsil, on the other hand, drains through the retropharyngeal glands directly to the upper of the posterior or external group of the deep cervical chain.

The evidence to support the belief that the tonsil is the main portal of entry for the tubercle bacillus is too voluminous to review in any detail. As a general proposition, it may be stated that about 5 per cent. of all tonsils will show, on microscopic examination, areas of tuberculosis.[5] Weller[6] puts the figure a little lower—2.35 per cent.—and Sir Harold Stiles as high as 9 per cent. Mitchell found tuberculosis of the tonsil in 38 per cent. of 106 adenitis cases without tonsillar symptoms, and Davis[7] notes that he has never seen tuberculous adenitis develop in patients after tonsillectomy had been performed. The pharyngeal tonsil shows tuberculosis even more than the faucial, the figures in 1,671 necropsies being 5 per cent. for the faucial and 10 per cent. for the pharyngeal.[8] Of equal interest is the fact that most cases of advanced phthisis show secondary involvement of the tonsil, Wood's figure being ninety-four cases out of 136, or 69 per cent.

Whether the infection is with the human or bovine bacillus is not of great importance as regards therapy, though it is probably true that in children it is more commonly bovine. Sir Harold Stiles in a large number of cases in children found the bovine type in 90 per cent., and Griffith,[9] in 102 glands examined by inoculation, found that 72.1 per cent. of children under 10 had the bovine type.

The relation between cervical adenitis and pulmonary tuberculosis is interesting. It has been shown that all these cervical lymphatics drain into the jugular trunk, and thence to the right heart and lungs. Should tubercle bacilli break into the circulation in this manner we should expect a miliary tuberculosis, a sequel which, however, is clinically rare. Van Zwaluwenburg and Grabfield, from a large series of roentgen-ray examinations, describe a shadow which they believe to be a thickening of the pleura over the apex, and which is seen in 10 per cent. of all cases, whereas, in those show-

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* Read before the Section on Surgery, General and Abdominal, at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Edmunds: Glandular Enlargement and Other Diseases of the Lymphatic System, London, Oxford University Press, 1908.
2. Cornet, G.: Scrofulosis, translated from second German edition by J. E. Bullock, New York, William Wood & Co.
3. Wood, G. B.: Operative Surgery of the Nose, Throat and Ear, St. Louis, 1914.
4. Wood, G. B.: Lymphatic Drainage of the Faucial Tonsils, Am. J. M. Sc. **130**: 216, 1905.
5. Wood, G. B.: The Nose and Throat in Cervical Adenitis, New York State J. Med. **18**: 95 (March) 1918.
6. Weller: The Incidence and Histopathology of Tuberculosis of the Tonsils, Based on Eight Thousand Six Hundred Tonsillectomies, Arch. Int. Med. **27**: 631 (June 15) 1921.
7. Davis: A Survey of One Thousand and Sixty-Four Operations for the Complete Removal of Tonsils and Adenoids, Brit. M. J. **1**: 114 (Jan. 26) 1918.
8. Wood, G. B.: The Significance of Tuberculous Deposits in the Tonsils, J. A. M. A. **44**: 1425 (May 6) 1905.
9. Griffith: Types of Tubercle Bacilli in Cervical and Axillary Gland Tuberculosis, Lancet **1**: 216 (Feb. 10) 1917.

ing tuberculous deposits in the faucial tonsils it is seen in 93 per cent, and in cases with cervical adenitis it occurs in 59 per cent They [10] conclude that tubercle bacilli in the tonsil reach the apex of the lung by a direct line of communication through the cervical glands I do not believe this to be so, and clinical evidence does not, in my opinion, bear it out Wallgren [11] in a careful examination of 516 cases of pulmonary involvement found that this had been preceded by lumps in the neck in only 17 per cent of the cases He was able to follow up 251 cases of tuberculous cervical adenitis and found that the great majority of these patients never developed pulmonary tuberculosis, or if they did, it was mild, furthermore, of twenty-nine patients that had lung involvement with adenitis, twelve were later cured [11] Williams [12] found that in families with an inherited predisposition to tuberculosis, those members who had suppurative tuberculous adenitis did not contract pulmonary tuberculosis, while those who did contract the latter did not have cervical glands

Regarding the treatment, I shall, before considering our own cases, review briefly the most favored and most frequently employed methods The first and most natural therapeutic agent is the sun Heliotherapy has been used in all types of tuberculosis, especially in Europe, where it has been so extensively worked out by Rollier Collected statistics of a large number of cases from the French sanatoriums report 74 per cent of gland tuberculosis cured by sunlight [13] Mayer [14] recommends it highly, and Hyde and Grasso [15] report, as follows, the results in 200 cases of gland tuberculosis treated by sunlight 78 per cent, apparent cure, 11 per cent, arrested, 8 5 per cent, improved, 2 per cent, unimproved, and 0 5 per cent, dead

To be considered at the same time are the various methods of applying artificial sunlight, given under different names, according to differences in the lamps—mercury vapor quartz lamp, carbon arc lamp, etc The carbon arc lamp, as used by Reyn and Ernst in the Finsen Institut at Copenhagen, and the use of which is reviewed in brief by Sauer,[16] furnishes an easy method of applying intensive light, and is apparently to be preferred to the mercury vapor quartz lamp

The use of the roentgen ray has so many supporters that its value may be accepted without argument, though the important question is to decide when to use it and when not, and whether it should always be employed Opinions as to the extent of its value vary a little, some of its advocates asserting that it helps only in some cases while others believe that it is the one therapeutic agent *par excellence* Pfahler [17] believes that is will cure all early cases, and should be used after surgical operation, Berry [18] and Trostler [19] believe that it is the best form of treatment, and Boggs [20] believes that roentgen ray and radium will cure more than 90 per cent of all cases He believes also that radical operation is primarily contraindicated, and in this I gladly concur

Tuberculin, which must be considered briefly, is a solution of certain extracts of the tubercle bacillus, and there are many different kinds, depending on the way in which the extract is made All these different kinds result from attempts of various investigators to procure the substance which will best stimulate the body mechanism to produce a specific antibody By its administration we hope to set up the formation of a defense, which will result in focal stimulation, and the overcoming of the infectious process [21] There are many opponents to this therapy, but if there is any value in it at all we should not discard it Of recent authors, Schmidt [22] Deycke,[23] Crowley,[24] Macrae,[25] Elliott and Sheard,[26] and Abbott [27] believe that tuberculin has an important place in therapy, and the last named says, "Above all other remedies in true tuberculous infections aside from those in which surgical interference is definitely indicated, I give first place to tuberculin" Other observers report no success with tuberculin and it is my belief, from reading the literature, that in bone and joint tuberculosis, at least, it has not in most cases proved of value There is no doubt that tuberculin has been the means of saving many eyes with tuberculous infection,[28] and I have seen several such good results in our own clinic Opponents of tuberculin are many, but its supporters are likewise too numerous to warrant one's saying that there is never any justification for its use. If its action is so beneficial in certain eye lesions, in which it is impossible to use light radiation and surgery, so much the more should we be willing to consider its value in other conditions In our clinic we have also seen many distressing cases of genito-urinary tuberculosis held in check by tuberculin

As we run through the literature we find the advocates of radical surgery decreasing in number, though no one will say that it has not its place Edmunds,[1] Dowd,[29] and Ladd [30] are among the foremost believers in radical operation the last two named referring especially to children Dowd reports 726 patients operated on by himself or his associates with 91 per cent of cures, and Ladd reporting 159 cases, advises early radical operation, with removal of the primary focus Abbott [27] admits that surgery is clearly indicated in some cases but contraindicated if there are palpable glands beyond the reach of the operator, if there is evidence of mediastinal glands, and if there are axillary glands These conditions prevail more often than not in our experience, and fortunate, indeed, is he who gets almost all of his patients at a stage when they are limited to a group which can be easily and quickly dissected out! The difficulties and worries of extensive

10 Van Zwaluwenburg and Grabfield The Tonsillar Route of Infection in Pulmonary Tuberculosis Am Rev Tuberc 5 57 (March) 1921

11 Wallgren Tuberculous Glandular Disease in Relation to Pulmonary Tuberculosis Upsala Lakaref Forh 23 (July 29) 1918

12 Williams Glandular and Pulmonary Tuberculosis Brit M J 1 158 (Jan 29) 1921 abst Am Rev Tuberc June 1921

13 Dinnan J B Heliotherapy in Tuberculosis M Rec 97 62 (Jan 10) 1920

14 Mayer Sunlight and Artificial Light Therapy Am Rev Tuberc 5 75 (April) 1921

15 Hyde C L and Grasso H Heliotherapy in Surgical Tuberculosis Am Rev Tuberc 5 159 (April) 1921

16 Sauer The Treatment of Surgical Tuberculosis with the Carbon Arc Lamp Am Surg 75 400 (April) 1922

17 Pfahler Roentgenotherapy in Cervical Adenitis New York State J Med 18 99 (March) 1918

18 Berry X Ray Treatment of Tuberculous Glands Brit. J Tuberc 15 13 (Jan) 1921

19 Trostler Essentials in the Early Diagnosis of Tuberculosis Am J Clin. Med 27 804 (Dec) 1920

20 Boggs The Treatment of Tuberculous Cervical Adenitis by Roentgen Rays and Radium Am J M Sc 162 90 (July) 1921

21 Pottenger Clinical Tuberculosis St Louis C V Mosby Company 2 329 et seq 1917

22 Schmidt Beitr z Klin d Tuberk 47 106 (March 15) 1921

23 Deycke Praktisches Lehrbuch der Tuberkulose Berlin 1920 p 231 et seq

24 Crowley Tuberculin Its Uses and Abuses Kentucky M J 18 30 (Sept) 1920

25 Macrae Tuberculin Treatment of Tuberculosis South American M Rec 18 217 (April 10) 1920

26 Elliott and Sheard Tuberculin in Treatment with Especial Reference to Nonpulmonary Tuberculosis Tr Canad A for Prev of Tuberc 18 64

27 Abbott The Treatment of Tuberculous Cervical Adenitis Am Rev Tuberc 3 175 1919 1920

28 Verheyhen The Use of Tuberculin in Eye Diseases Brit J Ophth 2 223 (April) 1918

29 Dowd Indications for the Removal of Enlarged Cervical Lymph Nodes New York State J Med 18 109 (March) 1918

30 Ladd W E Tubercular Cervical Adenitis in Children Surg Gynec & Obst 24 467 (April) 1917

radical treatment are well illustrated in a report of Lahey and Chute,[31] reviewing forty-eight cases of the above mentioned procedure Only 43 4 per cent did they class as excellent results, in 26 08 per cent there was paralysis of the spinal accessory, in five cases paralysis of the depressor anguli oris, and in eight cases recurrent glands These patients were operated on by several excellent surgeons, and represent, to our minds, a fair estimate of the results of surgical treatment of unselected difficult cases as they come into a large general hospital The advocates of early operation will say to this that, had they been operated on early, the results would have been better, but in this paper we are concerned with the unselected cases of all types, and more often than not these patients do not come early, and if they do they may not consent to operation, or there may be other contraindications

TREATMENT AT NONPULMONARY TUBERCULOSIS CLINIC

About twelve years ago, there was started at the Massachusetts General Hospital, through the interest and foresight of Dr John B Hawes, a nonpulmonary tuberculosis clinic, the one form of the disease which it was most desired to observe and treat being cervical adenitis, and in which the aim was to treat each patient as a human being and not as a case It was a class rather than a clinic There have been about 600 cervical gland cases, 175 genito-urinary, thirty-five cases of tuberculous eyes, and the rest miscellaneous forms of surgical tuberculosis The procedure is as follows When a patient with cervical adenitis comes to the outpatient department, all routine examinations are made, including those of the lungs, with the roentgen ray if deemed advisable, the throat, scalp, ears and the blood, and in certain cases a biopsy is performed, though we do not believe in the routine removal of specimens for diagnosis The patient then reports to our clinic, where he or she is seen by the internist and surgeon in consultation, and the line of treatment for that particular individual is discussed, and then the patient is referred to the social service department for investigation of home conditions In the majority of cases, the tonsils and adenoids are removed Then, in certain instances, consultation is had with the dermatologist and roentgenologist to consider light or radiotherapy In practically no case, save the acute, red, tender abscess, is any surgical procedure advised at once, though there are exceptions to this rule, notably the chronic solitary cold abscesses, when a gland or group of glands has completely liquefied, and in which we have found that simple drainage is the best procedure, and is usually followed by complete healing in a short while Attempts to dissect out the wall of such an abscess are difficult and not necessary Occasionally there comes a patient with a hard, discrete, easily removable group of glands, in which operation seems, at the outset, advisable, but this is an unusual condition We have, almost as a routine, started them on tuberculin, which, through the kindness of Dr E R Baldwin, we have procured from the Saranac Lake laboratory for the study of tuberculosis After trying this for a few weeks, observing the patient carefully, we then decide whether other therapy should be attempted However, we still put off, for as long as possible, radical surgical interference

To try to form an opinion on the results of our therapy, and to get a broad view of treatment, we took all the completed cases, including those patients that had stopped coming of their own accord, and tried to trace them The number of patients totaled 498, of whom the largest number were between 20 and 30 years of age, the next group being from 10 to 20, and the third those under 10, but owing to the fact that they were mostly nomads by inheritance and in habits, we could get in touch with only 150, in regard to whom certain facts are of interest Fifteen of them had pulmonary infection, of whom only four died after leaving us, though three died of unknown cause Only one developed phthisis after leaving the clinic Of the total number thirty-four had affected glands on both sides, the great majority being limited about equally to the right or left Nine patients had submaxillary tuberculous adenitis, a rather uncommon occurrence More than half had demonstrably infected tonsils and adenoids, which were removed, and with our present feeling many more, if not all, would have been operated on

Half of the patients presented themselves with an acute abscess, requiring incision—this was a secondary infection superimposed on a primary tuberculous condition This type does not well yield itself to radical operation, and here we believe tuberculin to be of benefit With long-standing sinuses the mercury vapor quartz lamp has proved a most valuable adjunct to the other therapy One of our patients with four sinuses on the right side of the neck, without any large glands, and who resisted tuberculin and roentgen ray, was cured after a very few weekly treatments with the Alpine lamp, and a stubborn condition of many months' duration disappeared in an astonishing manner

Our experience with the roentgen ray is too limited to enable me to speak authoritatively on it, but our success has not been striking, in a fair number of cases They were not early ones, but severe cases of long duration, and roentgenotherapy made no marked change for the better in the average patient One striking case, a young woman with a very extensive mass of the whole substernocleidomastoid chain on the right, a tremendous unsightly tumor with subacute inflammation and two sinuses at the upper end, failed to improve in the least under hygiene, roentgen ray and tuberculin, and was sent into the ward for radical operation The inflamed, adherent, discharging mass under the ear was dissected out—such a long tedious process that the operation was not completed, and she was sent out to return for a second operation While waiting for the proper time we continued the tuberculin, and to our astonishment the rest of the glands began to subside so rapidly that from week to week we could observe their shrinkage, and now one can perceive merely a faint scar—this case is one of the most extensive, if not the most so, which we ever had

Of the 150 patients whom we traced, fifteen still are having trouble with persistent glands—all of these were persons that did not follow up the treatment, we neither gave them tuberculin enough to satisfy ourselves, nor did we have a chance to carry out other effective measures As noted above, seven died and one only developed phthisis after coming to us Of the total 150 cases, 127 are classed as cured with excellent results, fifteen as failures due to ceasing treatment, eight as failures to respond to conscientiously applied therapy In 109 of these cured patients the chief therapeutic

31 Lahey and Chute End Results of the Surgical Treatment of Forty Eight Cases of Tuberculous Cervical Adenitis Boston M & S J 186 280 (March 2) 1922

agent besides hygiene, and in some incision of the secondary abscesses, was tuberculin, in twenty-nine of these we believe it to have been the chief element in the cure, and in eighty others we believe it to have been a very great help Four cases of recurrence after radical operation yielded promptly to tuberculin, and another case which recurred after ceasing tuberculin subsided at once on renewal of the specific therapy Three distressing tuberculous eye infections were cured with tuberculin On the other hand there have been a certain number of patients on whom tuberculin exercised no beneficial effect whatever, and these were then treated by operation, by light or by roentgen ray, the desired result thus being achieved The tuberculin employed by us is the tuberculin B F, or bouillon filtrate, the initial dose being one ten-thousandth of a milligram It is given once a week and the dose increased gradually, being reduced slightly in case of too much reaction Some of the patients would receive as much as 100 milligrams, or more, a week Each patient is carefully observed at each visit to the clinic

When other methods have failed or when there seemed some special indication at the outset, we have resorted to radical operation Our prejudice against surgery as a primary procedure is based on the following

First, a majority of the patients can be cured without it, leaving little or no scar

Secondly, the cases as they come to us, unselected, involve as a rule too many glands to promise any cure short of a very extensive dissection, with its accompanying dangers of nerve injury, postanesthetic complications, and unsightly scar

The chief argument for operation, as against other methods, is that it is prompt, and if successful, does away with the necessity of weeks or months of treatment In reply to this it is our contention that the average case as we see it is better in the long run without extensive neck dissection that the dangers of nonoperative treatment are practically nil, and that we can send out patients happier, in the end just as well, and with little or no cicatricial deformity Operation has its place, but that is not the first place in the average case Our clinic is, as I said above, a sort of class—we get to know the patients and they us—we watch over their hygiene and mode of living, as well as treat them specifically

To summarize briefly, a case reporting to us is studied thoroughly and when a diagnosis of tuberculous adenitis is made, we do approximately as indicated below

1 Hygiene and mode of living are investigated, and corrected as indicated

2 The tonsils and adenoids are removed, unless contraindicated

3 Acute abscesses are drained

4 Discrete cold abscesses without acute superimposed infection are opened through a small incision, and drained for a few days with a small rubber tube

5 Patients with chronic discharging sinuses are treated with tuberculin plus the mercury vapor quartz lamp

6 Discrete localized glands are at the outset either removed or treated with tuberculin

7 Extensive disseminated glands, and those showing deep involvement, are treated with tuberculin If this fails we then try roentgen ray, and lastly operation

CONCLUSIONS

There is no certain therapeutic agent, no absolute specific and no set rule for treating tuberculous cervical adenitis To lay down a definite scheme, and treat every case thereby is, in my opinion, not productive of the best results Each patient must be carefully studied and considered as an individual, and then, by the judicious application of our five chief methods, hygiene, light, radiation, surgery and tuberculin, either singly or in combination (for each has its place), we will find that we approach, as nearly as possible in this stubborn and difficult condition, our therapeutic goal

402 Marlborough Street

ABSTRACT OF DISCUSSION

DR HARRY G SLOAN Cleveland Dr Miller has expressed exactly the general feeling in regard to the treatment of tuberculous glands of the neck In the last ten years, this has shown remarkable change The change in point of view has originated principally from the attitude of the roentgenologists Tuberculosis of the glands of the neck must be managed according to the patient's hygienic surroundings The treatment must be adapted to the resources of the patient Under ideal conditions it is most important first to eradicate the focus of local infection In all cases of cervical adenitis we advise routine removal of tonsils and adenoids This is done under local anesthesia when feasible In children general anesthesia is necessary The tuberculous person stands general anesthesia poorly, so we avoid it when possible When the glands are deeply situated, we depend on the roentgen ray We do not advise operation on the glands unless one of them breaks down We then make a small incision parallel to the normal wrinkles of the neck in order to evacuate the contents The general immunity of the patient is increased 20 per cent by rest in bed A man's immunity to any type of infection is probably 20 per cent better in bed than when he is up and around And the patient must be out in the open Recent studies in metabolism during open air treatment showed that the general metabolism is increased from 50 to 60 and even higher Overfeeding is important I like to give cod liver oil In the very resistant cases when immunity is not readily established, we have advised one or two accessory measures such as repeated transfusion of whole blood The last hygienic measure we dispense is open air Practically everybody can sleep outdoors or can arrange his affairs so as to have an outdoor job

DR FRANK H LAHEY Boston Every one who has been through the stage of radical surgery for tuberculous glands of the neck is very glad to see the treatment return to conservative measures The statistics which Dr Miller gave in his paper regarding spinal accessory paralysis are based on a series of twelve cases collected by my associate and me and I wish to emphasize particularly the seriousness of this lesion to which, I believe, due weight has not been given There is a teaching that if the spinal accessory nerve is cut its function will be taken up by the cervical plexus This is based entirely on the assumption that junction of the third and fourth cervical nerves with the spinal accessory which takes place beneath the border of the trapezius occurs It is called the subtrapezius plexus As a matter of fact this junction does not always occur and absolute dependence cannot be placed on the foregoing statement The trapezius muscle is an an all important unit of the shoulder girdle muscles It is practically the only muscle which anchors the scapula and the muscles arising on it to the spine It accomplishes the last 90 degrees of abduction and if its function is lost produces serious crippling of shoulder joint motion In this series of twelve cases of spinal accessory paralysis operations were performed by six surgeons operations of all types from complete block dissections to simple incision of tuberculous abscesses If you have an opportunity to review your cases in which dissection for tuberculous glands of the neck were made, I believe you will be surprised at the num-

ber of cases of spinal accessory paralysis, and the definite crippling and loss of function resulting from it This is, I believe, a serious argument against extensive dissections, except in urgent cases of failure to obtain benefit by the last radical measures It has also been our experience that, even when the spinal accessory nerve has been carefully preserved throughout its course, paralysis may occur later Hence, it must be borne in mind that this lesion is always possible in any case in which extensive dissections are undertaken

DR RICHARD H MILLER Boston Quite a while ago I was given the assignment of tuberculous gland cases at our hospital with the idea that I would operate on all patients, but in examining them, I came to the conclusion that operation was by *no means the first consideration* I found that ordinarily the adenoids and tonsils were not removed unless the nose and throat man could see something definite I believe now that this is wrong, and that in every case, irrespective of what the tonsils and adenoids look like, they should be removed One thing that has helped us in handling these people who live in crowded districts is that we have a social worker who keeps in touch with them The question of using tuberculin is one about which there has been a great deal of argument but surely it has helped us a great deal in many cases If we attempt to treat all cases in this specific way, we shall be disappointed, but it has a very definite place, and we have used it now for nearly twelve years We try it, and if we do not get results we make a change, but there are some results that are perfectly astonishing For example, a man came in with a tremendous tumor of the neck a few years ago We treated it with tuberculin and it got no better until one day the tuberculin created a tremendous reaction The arm swelled to three or four times its normal size and the man was very sick, owing to the unexpected action of the tuberculin However the glands began to diminish in size in the most surprising manner He was given a little more tuberculin and within six months he was accepted for service in the Army No note was made at that time of the glands, so they were at least not visible or palpable on casual examination We must remember that it is a difficult problem one which requires patience If we treat our patients with the best means at our command and encourage them and supervise their home conditions in the end we shall have much better results than we used to achieve with the old radical operation

THE EFFECT OF QUINIDIN ON STRIPED MUSCLE*

J G BRODY, M D
CLEVELAND

The puzzling effect of quinidin on auricular fibrillation renders it advisable to study its actions on the fundamental properties of muscle This can be most conveniently and accurately approached in skeletal muscle Experiments with frog's gastrocnemius or sartorius, immersed in dilute quinidin solutions, show the following variations from the corresponding normal muscle (immersed in unpoisoned Locke's solution)

1 The height of contraction is diminished
2 With tetanizing currents, the peak of contraction is not so well sustained
3 The muscle ceases to respond to any stimulus much sooner than the corresponding unpoisoned muscle
4 Load fatigues it more easily
5 About ten stimulations a second cause a completely fused tetanic contraction in normal muscle, but with the quinidin muscle, the fusion is usually incomplete, no matter how frequent the stimulation and becomes less and less complete the more the muscle is fatigued or loaded
6 The quinidin muscle therefore responds intermittently to a tetanizing current

* From the Pharmacological Laboratory of the Western Reserve Medical School

The contrast is shown in the accompanying illustration, in which the upper tracing represents the complete tetanus of the normal muscle, the second tracing the contractions of the quinidin muscle, the third tracing represents the stimuli, and the lowest tracing, the time, in seconds The muscles were arranged so that the same induced current passed directly through the two muscles

Whereas the normal (upper) muscle shows one contraction throughout the stimulation, the quinidin muscle contracts at an almost regular rate of about fifteen a minute, although the rate of stimulation was about eight a second

Upper tracing complete tetanus of normal muscle second tracing contractions of quinidin muscle third tracing stimuli lowest tracing time in seconds

These effects can be conceived as depression of the muscle, slow recovery of excitability, and consequent failure to respond to rapid stimulation, until the muscle has rested, therefore, intermittent response to frequent stimulations, the rhythm of the contractions depending not on the frequency of the stimulation, but on the rate of recovery of the muscle

In consequence of the rest, the contractions are strengthened

This seems to furnish a plausible explanation of the effect of quinidin on auricular fibrillation

Further work will be needed definitely to establish whether this explanation covers the clinical phenomena, or whether other factors enter into them

Quinidin probably depresses the cardiac muscle, so that it cannot respond to all the numerous stimuli that give rise to fibrillation, but only to a restricted number, thus giving opportunity for periods of rest

The Colonial Exhibition at Marseilles—The *Presse medicale* calls attention to the medical exhibits in the Colonial Exposition which is now open at Marseilles As long ago as 1897 Colonel Lyautey wrote from Madagascar to the French government 'Give me four physicians and I can send back to you four regiments' The medical men have been the pioneers in the French colonies and the extent of their work is now displayed in the exhibits of the public health service in the various colonies the hospitals in charge of scientifically trained natives the medical schools, the utilization of mineral waters, seat bathing, etc, and sanitation of towns "As usual, however,' our exchange remarks, "the prevention of disease in agriculture and stock raising makes by far the most imposing showing Is this due to the indifference of the public powers to human health in comparison to the financial profits? It does not seem so Is it due to the modesty and the timidity of physicians? Possibly"

OBSERVATIONS ON THE IRIS IN HEALTH AND DISEASE AS SEEN WITH THE SLIT LAMP*

ARTHUR J BEDELL, M D
ALBANY, N Y

This communication is based on the result of more than 250 examinations, including iridodialysis, iritis, uveitis, kerato-iritis, iridocyclitis, interstitial keratitis, glaucoma of all forms and cataract of many types The usual routine has been followed with the slit lamp, using binocular 75 and ocular 33 Special studies have been made at greater magnification

To present some new facts and emphasize the importance of this examination, it has seemed best to review part of our present knowledge regarding iris anatomy, and then to discuss embryologic remnants and pathologic changes

An examination of the iris with oblique illumination will materially aid in understanding the usual contour and some of the common color arrangement The microscopic section shows the zone about the pupil, which is usually a dense brown There is a distinct bulge back of this margin which we call the spongy portion of the iris, and the most prominent part of this sponge the shelf I suggest these names only because they are short and more easily remembered than the region of the greater or lesser vascular circle and because, furthermore, the iris under examination gives the impression in many cases of a sponge Where this spongy portion of the iris overlaps there are many variations in the normal eye Definite bands may stand out prominently with depressions between, as caves, hollows or lacunae, or the whole iris may seem like a

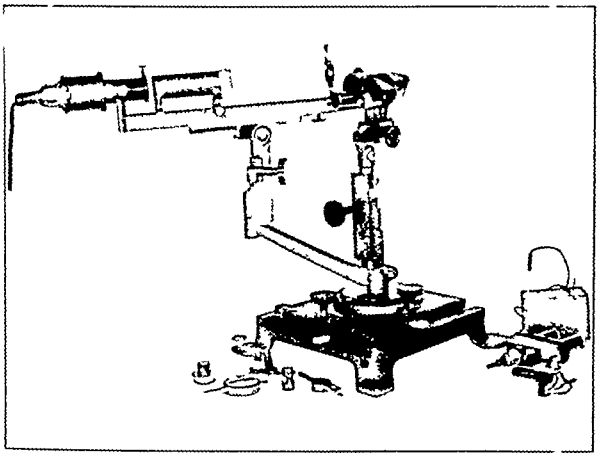

Fig 1—Slit lamp movable base with lamp and microscope attached so that the two may be moved together an arrangement that is of the greatest practical value

fresh water-soaked sponge The individual fibers are well defined in the light colored iris, whereas in the dark brown iris the folds are more often shallower and the hollows less marked

The peripheral part of the iris is frequently arranged in concentric rings and, although they may be absent, we have been able to outline as many as six The radiating folds which are grossly evident vary much in depth and number So far, we have been unable to attach any pathologic significance to them

The blood vessels of the iris are often visible, and in cases of atrophy it is frequently possible to follow them through most of their course They may be markedly increased in number and size, especially in chronic simple glaucoma and in sympathetic ophthalmia The iris nerves are at times easily outlined

The pigment of the iris is of two types, and presents so many variations that, unless a specific plan is followed, there must surely creep into the literature and into the understanding of cases very wrong conclusions The pigment surrounding the pupillary margin is

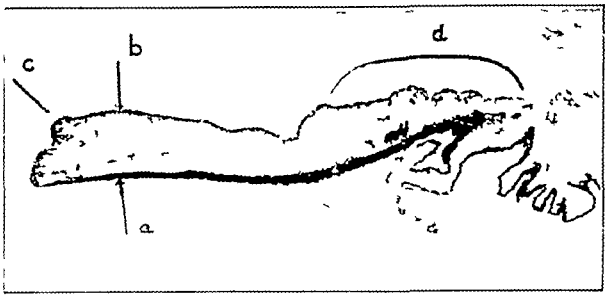

Fig 2—Microscopic section of iris (*a*) retinal pigment (*b*) sponge (*c*) shelf (*d*) concentric folds

retinal, and, as far as I have been able to see, always appears as a dark brown mass This varies in intensity as well as in extent and is often seen as a layer, notably in the iris atrophy of age or the congenital absence, albinism The marginal band may be markedly increased so that in parts it extends over the iris stroma It may be so great that it becomes adherent to the overlying iris, in one case about one fourth of the circumference of the pupil was occupied by a densely pigmented mass, and in another case it was adherent to the iris with four distinct grayish bands of adhesion The same pigment may become pedunculated, or it may even be free on the iris In contrast to the increase, we frequently see by transillumination irregular absorption at the pupillary margin, at other times there is almost complete blanching

The other type of pigmentation, iritic, is that which makes the distinctive color of the eye and is necessarily of endless variety This superficial pigment ranges in color from light yellow to an intense brown, and may be so irregular in distribution that care must be taken to determine whether a given spot is of iritic or retinal origin

Pigment on or in the iris we consider under spots, dots, dashes, granules, specks, balls, thin filamentous veils and densely pigmented layers It may be on the posterior surface of the cornea, in the aqueous or on the anterior capsule of the lens The interpretation of pigmentation will lead to prolonged study So far, we believe that the superficial spots ranging from light yellow to dense brown are normal, that pigment deposits on the capsule of the lens may be embryologic, although if the same pigment, particularly indefinite masses, are about the iris margin, they signify present or past inflammation of the iris, and, if the dense brown masses are vascularized, it is evidence of a severe chronic uveitis If there be irregular granules or specks and dashes on the posterior layer of the cornea and in the aqueous, there is a definite pathologic process, most often glaucoma The thin and dense veils are always indicative of pigment migration, which

* Read before the Section on Ophthalmology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

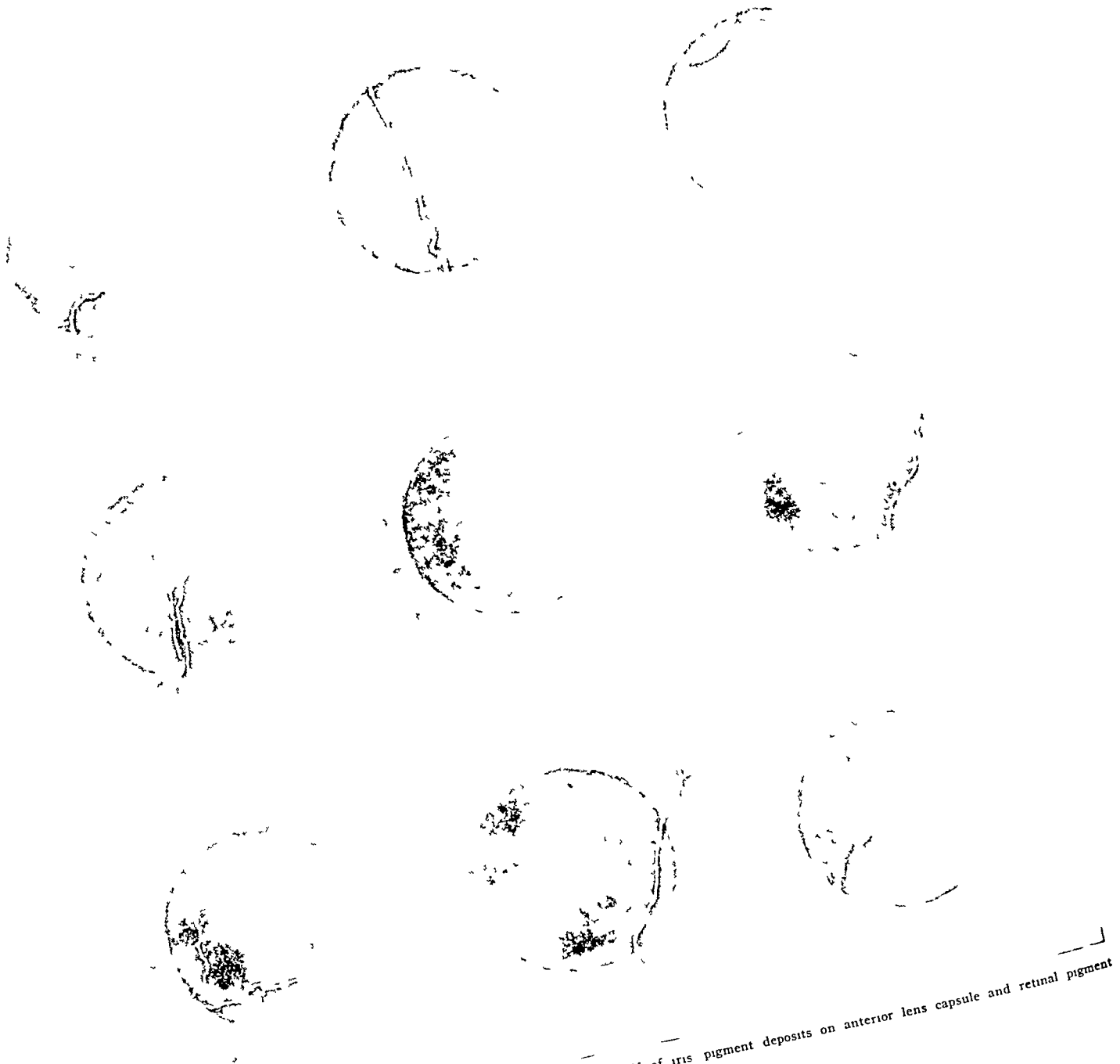

Fig 3—A few of the many embryologic changes filaments from shelf of iris pigment deposits on anterior lens capsule and retinal pigment mass adherent to iris stroma

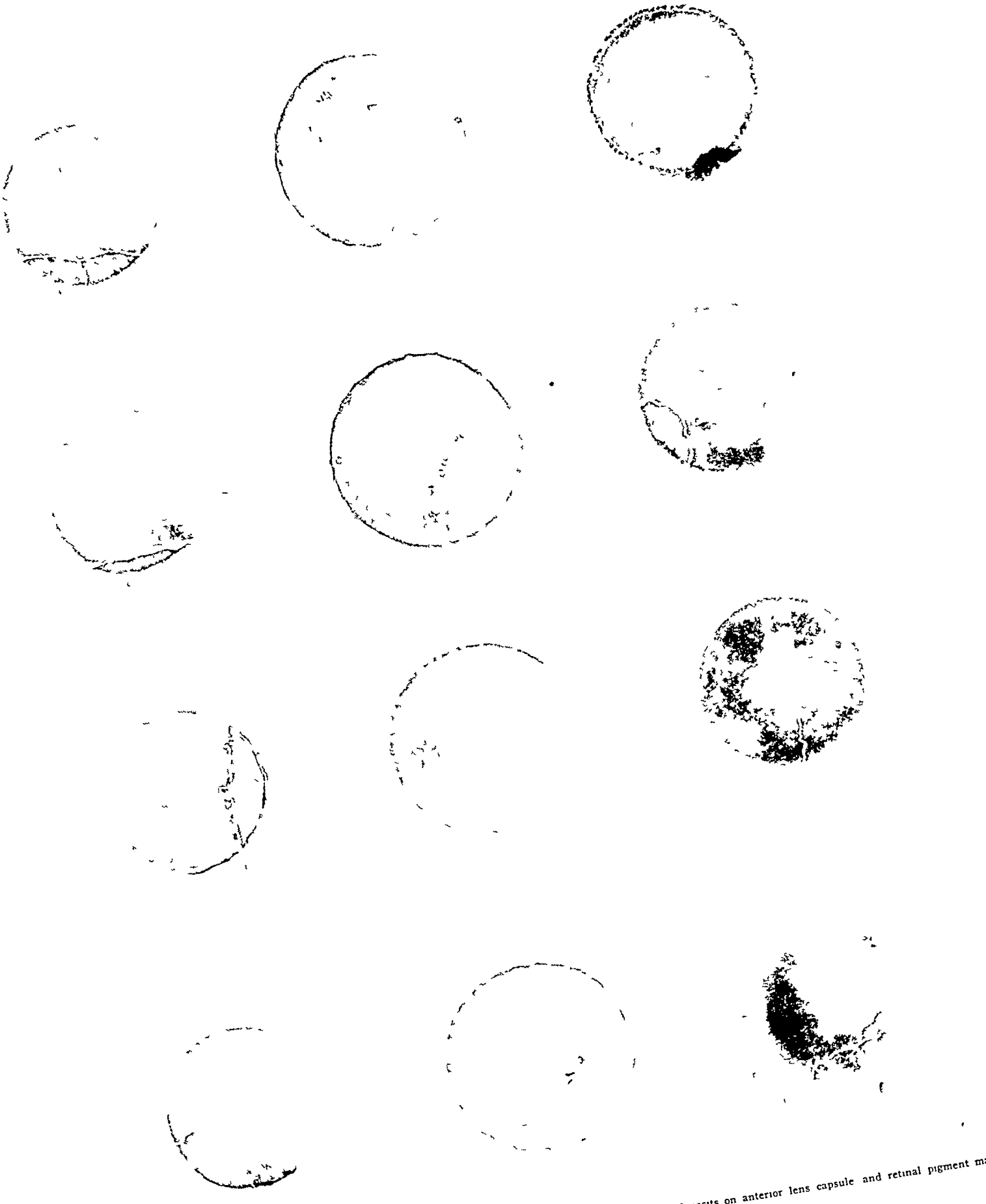

Fig. 4—A few of the many embryologic changes: filaments from shelf of iris; pigment deposits on anterior lens capsule and retinal pigment mass adherent to iriss troma

is probably never present except in disease Balls, small definite, round, projecting masses which may cover the entire surface of the iris or even lie on the anterior lens capsule, have been seen in the dark brown iris only when the patient had glaucoma The interpretation of pigment dots, particularly those near the pupillary margin, is open to discussion They have been seen in seemingly normal eyes, in those with atrophic iris, and in some with cortical cataracts They are usually superficial, tend to round shape, and most often are of the retinal pigment type Dense granules, sometimes in the form of a thick veil, have with one exception never been seen except in glaucoma

EMBRYOLOGIC REMNANTS

The origin of tissue must be considered, if anomalies are to be properly recognized As the eye develops, the uveal tract forms a mass which becomes the posterior lens capsule This projects forward and makes a sheath or a layer of vascular tissue Ordinarily, this layer is absorbed, but at times it persists as a macroscopic body in the pupillary area At other times, the

Fig 5 —Sympathetic ophthalmia Above Descemet s deposits Below one of many new blood vessels in iris and on capsule The iris shelf is adherent to the capsule not the pupillary margin This is seen only in chronic uveitis

remnant is so small that only careful study by focal illumination and the ophthalmoscope discloses it There are, however, many other changes which have escaped clinical detection In my first 250 examinations there were forty-three anomalies, a few of which may be studied by examination of the chart

Fig 6 —Congenital coloboma with pupillary margin tags The retinal pigment is almost complete only the most inferior margin being without it. Congenital cataract

EMBRYOLOGIC CHANGES

There are two great classes of embryologic changes, those of iris structure and those of pigment on the anterior capsule of the lens

Iris Structure—First, folds that spring from the iris shelf and have the character of the definite iris stroma These bands may be single, they may project into the pupillary area, or, as we have seen in two cases, extend to the capsule of the lens and remain adherent to it or the fiber may simply extend forward and almost touch the cornea Second, fine translucent gray filaments which may remain attached to the iris at one end and lie free in the aqueous at the other or extend from the iris to the anterior capsule of the lens or from iris to iris or go across the pupil from iris to iris By examination, preferably dark field, many of these forms are easily seen, and it will be found that they all come from the iris shelf A part of the iris may be absent, as in coloboma, or all of it, as in aniridia

Pigment—Congenital deposits of pigment are of three types stars, masses and fine lines The stars may be single or in groups The indefinite dense brown pigment may be in rounded, elevated areas single or multiple Fine lines may lie on the capsule and extend beneath the iris In this study stars and lines have been

seen only in otherwise normal eyes On the other hand, splotches of pigment similar to these congenital ones have been seen in iritis and glaucoma

PATHOLOGIC CHANGES

Iritis—Acute In acute iritis, the first clinical change is contraction of the pupil or sluggish light reaction, which is followed by injection and then exudation Most of the synechiae are the result of exudate causing the adhesion of the retinal pigment layer to the anterior lens capsule At first there are minute aggregations of cells which, if seen early, can be drawn apart under atropin and may leave no trace of the disease More often, however, the adhesions are well formed, showing as a gray exudate surrounded by brown pigment Atropin may succeed in stretching these, but there always remains some retinal pigment on the capsule, and not infrequently the iris is firmly bound down Such posterior synechiae vary in size, number and shape The gray exudate that partially or completely fills the pupillary area is well studied, and conclusions may easily be drawn When a ring of the exudate completely closes the anterior chamber, the iris bulges forward, often causing glaucoma Not infrequently the iris seems bound down throughout its entire margin, and yet glaucoma does not supervene Examination in the latter case will show that there is at least one area in which the iris is free from the capsule

Chronic In chronic iritis there are two noteworthy observations (1) the adhesions of which I have just spoken, and (2) the proliferation of the retinal pigment This pigment may cover the entire anterior capsule, it may be present as a single small mass, or there may be any degree of pigmentation between these two

Quiet The type that escapes diagnosis and is, therefore, called "quiet iritis" is easily diagnosed with the lamp The pigment proliferation and gray capsular exudate in an eye without pain and only slight redness make the diagnosis easy In syphilitic iritis we may have the so-called gumma, which appears as an elevated

Fig 7—Chocolate colored deposits in and on the iris with a capsular exudate and pigment proliferation Chronic glaucoma

brownish area with definite blood vessels running in and through it Tuberculous iritis offers a field for interesting study and exact deductions

Recurring Recurring iritis has caused endless annoyance to patient and physician A thorough study will show that in many of these cases there is complete occlusion, and that the flushing of the eye is often indicative of a glaucomatous change This explains why an iridectomy has often cured an iritis of years' standing

INTERSTITIAL KERATITIS

In interstitial keratitis, the iris usually presents the inflammatory picture with opacity and vascularization of all layers of the cornea, and areas of deposit on Descemet's membrane As there has been some doubt as to the circulation of blood in interstitial keratitis,

Fig 8—Penetrating iris injury caused by a flying piece of steel Retinal pigment layer in the wound no pupillary marginal pigment change

that doubt is permanently removed after examination with the slit lamp, for, in all fresh cases, the definite blood stream is demonstrable, and only in permanent, small, central opacities is blood absent Descemet's deposits vary much in size and number, frequently covering almost the entire membrane Often grouped to one side of a deposit are rounded dots suggesting a granular nucleus in appearance So far, I have not been able to make a definite diagnostic deduction regarding these deposits

A case of proved tuberculous keratitis with temporal limbus infiltration of many months' duration showed a clear iris, with no evidence of infiltration or increased iris vascularization

UVEITIS

A patient with secondary uveitis, of unproved syphilitic origin, of years' duration, presenting many vascular corneal opacities, had a mature cortical cataract three years ago The lens was removed, pupillary occlusion became marked and the patient came to me for a second operation The slit lamp proved that she had innumerable gray patches of deposit on Descemet's membrane, and that many new blood vessels were present in the iris The other eye showed the same deposits and corneal vessels These Descemet's deposits were so minute that, unless a most exhausting loupe examination had been made, they surely would have escaped notice It is hardly necessary to say that I refused to operate

SYMPATHETIC OPHTHALMIA

The appearance of the iris in sympathetic ophthalmia is suggestive In one case, Descemet's membrane was studded with deposits, the iris was thickened and lost its markings, and there was adhesion between the shelf and capsule, with a frayed margin and many large blood vessels This iris picture was almost the same

in an eye that had been severely injured by being struck with a large foreign body, producing dislocation of the lens up and out with iris inversion The iris was brownish, showing fine and large blood vessels with triangular attachments of the iris shelf to the capsule

Fig 9 —Traumatic iridodialysis intact pupil margin, no pigmentation, zonule and lens

INJURY

Figure 9 shows the separation of iris, the result of a blow It will be noted that the peripheral margin of iris is smooth, and that there has been no increased pigmentation

In a clean-cut perforating wound there was a distinct layer of retinal pigment where the overlying iris had been destroyed with no other evidence of iris involvement A clean prolapse of iris which became incarcerated in the cornea showed a stretching and thinning of all iris structure without pigment massing

GLAUCOMA

The observations made on glaucoma are classified as acute, chronic and simple

Acute —The opportunity of studying the acute cases with the slit lamp has not been often As may be readily understood, the excited patient stands such an examination poorly, the eye being so sensitive to light

In a recent case the cornea was steamy, showing innumerable superficial epithelial elevations and true edema, the pupil was widely dilated with injection of the iris but no change in the pigmentation

Chronic —The chronic inflammatory glaucomas are more often examined, and usually show migration of pigment Some, however, do not, so that it does not seem that pigment migration is either a symptom of the disease or of prognostic import, although it may prove to be of the greatest diagnostic value

Simple —Simple glaucoma has been observed many times, some showing absorption of almost all of the iris pigment, the iris giving the appearance of being moth-eaten because of its uneven margin and transmitting the light through the atrophic tissue to the retinal layer

On careful focusing it can be found that a blue iris is made up of a very few strands near the pupillary margin, and the tissue making up the shelf is so thin that the pigment layer is detailed In other simple glaucomas, the iris margin has remained unchanged, and in still others the pupillary pigment layer seems to project over the iris, giving an appearance of prolapse Not infrequently the iris blood vessels are very numerous, although gross examination may not demonstrate it This is one reason why expulsive hemorrhage follows operation, such as an iridectomy

Another reason for failure to relieve tension is the immediate adhesion of the iris to the lens capsule I strongly urge the use of atropin at and following operation

CATARACT

Following cataract extraction, not uncommonly the whole surface of the iris seems obscured in a thin veil in which there are innumerable pigment spots not only about the pupillary margin but as far back as examination can be made In some other cases the iris about the coloboma is atrophic, showing as a gray line with irregular margin and, by dark illumination, loss of iris

Fig 10 —An adherent leukoma secondary glaucoma a broad iridectomy vision 20/30 Type 1 The iris incarcerated in the ulcer is evident as a thin atrophic layer The margins about the iridectomy and pupil show a few narrow synechiae and the superior temporal side a large irregular triangle of unaltered retinal pigment Fine pigment over and in stroma

fiber detail In other cases, particularly in brown iris, the margin seems thickened and rounded, and gives the effect of considerable pigment proliferation

SUMMARY

Anatomic and embryologic changes heretofore only partly studied and very infrequently seen clinically are now a matter of daily observation

Iritis can be diagnosed earlier, and prompt, efficient treatment materially lessens the severity of the attack

After the attack, correct measures may be instituted for the prevention of recurrence, such as iridectomy in occlusion

Although the iris, retina and choroid are directly continuous, the surprise has been the absence of any iris change in retinochoroiditis, neuroretinitis, simple detachment of the retina, choked disk or retinitis proliferans

Glaucoma may be diagnosed earlier by the slit lamp, but it seems to me that if the methods we now have of careful tonometry and field observation have not helped an individual observer, then the more difficult of interpretation pigment migration is not likely to clear the diagnosis, for such migration has been seen in high myopias, compound hypermetropic astigmatism, hyperopia, primary optic atrophy with arteriosclerosis, and in cataracts of the cortical, capsular, lamellar, traumatic and secondary types

In some penetrating wounds of the iris there is no change except at the direct site of injury, in contrast to the retinal pigment massing in any iris inflammation

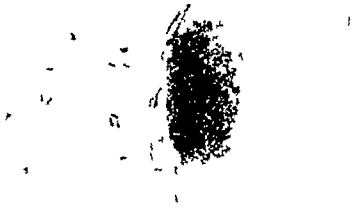

Fig 11.—Chocolate colored deposits in and on the fibers of the iris in a boy aged 11 years whose only lesion was a low degree of hyperopic astigmatism

CONCLUSIONS

Variations from our previously considered normal are many Marked gross iris changes are better understood after study with the lamp

The inflammations of the iris may be promptly recognized

Glaucoma can sometimes be confirmed by examination with this instrument

The pigmentation of the iris demands the most painstaking study by many competent observers for some time

Favorable and unfavorable cases for operation may be selected by its use

Finally, the slit lamp is an addition to our diagnostic armamentarium only second to the ophthalmoscope, and, just as the older instrument yields results only after training, so the newer can be of its greatest service only after long study

344 State Street

ABSTRACT OF DISCUSSION

DR HARRY S GRADLE, Chicago A question that is essentially of physiologic but eventually of pathologic interest is that of the approximation of the sphincter margin of the iris to the anterior capsule of the lens Many authors led by Hamburger, believe that this approximation results in a water-tight closure between the anterior and the posterior chambers while those of the Leber school are convinced of the free communication between the chambers A conclusive decision on this point would be of vast importance, with especial reference to the mechanical features of glaucoma In a case with a localized, sharply defined area of atrophy in the iris stroma, the entire iris tissue of the area was replaced by a thin, flexible membrane, essentially a tambour of the iris The membrane bulged forward until it protruded markedly before the anterior plane of the iris Then suddenly it collapsed and resumed the former position in the plane of the retinal pigment epithelium of the iris This phenomenon was interpreted as the result of a water-tight closure between the anterior and posterior chamber until the pressure of the aqueous in the posterior chamber was sufficient to overcome the approximation of the iris to the lens capsule, when the fluid spurted through the pupil, relieving the pressure on the posterior surface of the flexible membrane in the iris I have observed a somewhat similar phenomenon in a young girl with congenital cataract One lens had been needled twice, with the result that the anterior capsule was wide open and well retracted behind the iris There were still a few floccules of cortex in the bed of the

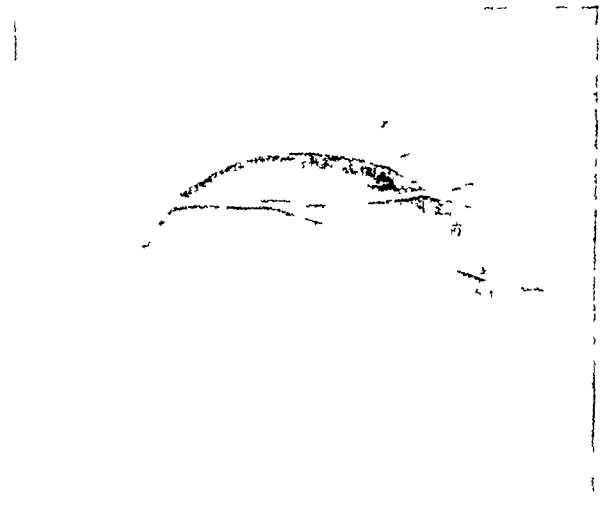

Fig 12.—Retained pupillary membrane showing many fibrous attachments to the iris shelf

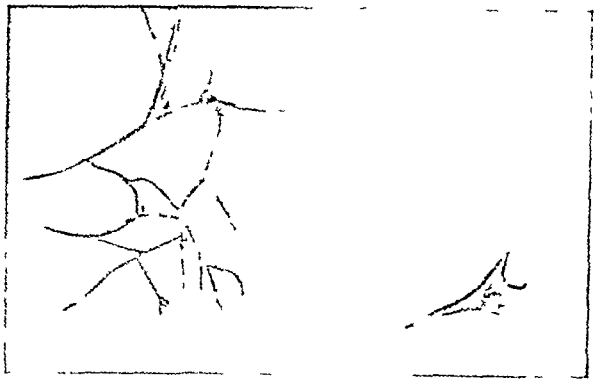

Fig 13.—A group of congenital pigment cells on the anterior capsule Patient had retinal blood vessel tuberculosis

lens, and the posterior capsule was fairly opaque In the exact center of the posterior capsule was a round aperture, approximately 2 mm in diameter, through which she obtained normal vision with the proper correction With the slit lamp this aperture was found to be covered with a membrane so delicate that it could not be seen with the usual Coddington loupe The membrane resembled a spiderweb in formation, minus the geometric regularity, and it could not be determined whether it was new formed tissue, hyaloid membrane, or thickened anterior vitreous Irrespective of the source, it was extremely delicate and flexible The membrane bulged forward fully 0 5 mm and then receded to the primary position in the plane of the posterior capsule The bulging occurred in the form of a tidal motion synchonous with the respiration and continued throughout the period of observation In all probability the pressure of the blood in the retina and choriocapillaries is increased during some phase of respiration, as is the pressure of the blood in the anterior portion of the eyeball But the volume of blood behind the posterior capsule is much greater than that of the anterior portion and consequently an equal increase in blood pressure throughout would result in slightly greater pressure in the vitreous chamber than in the aqueous chambers Such a slight change in pressure is insufficient to cause a manifest difference in an eyeball with normal relations, but the delicate membrane in the posterior cupsule, acting as a tambour head, allowed the observation of slight pressure variation between the vitreous and aqueous chambers

DR MARCUS FEINGOLD, New Orleans I would like to relate the purpose for which I use the slit lamp and corneal microscope on the iris in certain instances A young man complained of a dilated pupil in his left eye He had had no discomfort He had been strong and well and was not aware of any disease I found an extremely dilated pupil, weakened accommodation, and a pupil which did not react at all to light The physical examination was entirely negative the Wassermann was negative There was weakness of the extrinsic muscle in the other eye My suspicion was that we were dealing with a case of lethargic encephalitis, one of those cryptic cases in which there had been no other manifestations of disease Nothing was found by his family

FIG 14.—Acute iritis masses of retinal pigment layer on capsule iris stroma freed

physician Less than a year later, he appeared again, with the same condition I examined him with the corneal microscope and slit lamp, for the purpose of establishing whether any pupillary reaction existed With a binocular loupe and focal illumination and an electric ophthalmoscope I could detect no movement whatever of the sphincter With the corneal microscope and slit lamp I found that on the temporal side the sphincter reacted, on the nasal side it did not react Of course, this did not lead me any farther in diagnosis, but it is an interesting observation, and the future will tell what the case is

DR MARTIN COHEN, New York Might it be wise to examine the iris tissue in regard to pigmentary changes in cases of suspected systemic disease, for instance, diabetes? Would we be able by the slit lamp and corneal microscope to recognize incipient pigmentary changes in the iris stroma?

DR. ARTHUR J BEDELL, Albany, N Y I have not seen any marked pigmentary changes in the conditions of which Dr Cohen speaks I particularly mentioned in the paper that in diseases in which we would expect to find some pigmentary changes, we have been surprised to find they were

FIG 15.—A congenital film veil coming from the iris shelf with a frayed end projecting forward Three pigment masses round smooth and without demonstrable structure The inferior end lies behind the iris

not present Dr Feingold spoke about pupillary reaction You all know how difficult it is at times to decide whether or not a pupil reacts I think the most accurate method is to have the patient before the slit lamp with the iris well focused and then turn the light on and off In this way, even the slightest reaction is easily determined

SOME COMPARATIVE RESULTS IN CITIES AND IN COUNTIES AS HEALTH UNITS*

A J WARREN, M D
Director of County Health Work Kan as State Board of Health
TOPEKA, KAN

The incorporated city is a unit of civil organization for the protection of the public health has so thoroughly justified its existence, efforts and expenditures that the question of the propriety of such an organization is no longer debatable The evidence is all on the affir native side

Unfortunately, the county as a unit of organized civil efforts for the protection of the health of the people living in the rural communities and small towns is not so universally accepted That the county as a unit has been neglected in the past is illustrated by the fact that the first position of full-time county health officer in this country was not established until 1911 [1] That the problem is still being treated with indifference is evidenced by the fact that of the 3,065 counties or equivalent divisions of the continental United States, only 161, or 5 2 per cent, were on Jan 1, 1921, provided with a whole-time local health service In other

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Pub Health Rep Nov 18 1921 p 2832 2836

words, only 8 21 per cent of the rural population of this country was on Jan 1, 1921, provided with local health protection [1]

"The country is the weakest link in the sanitary chain" [2] because the country has been neglected on account of the prevailing opinions that "rural health work, on account of distance to be covered and other obvious factors, is relatively more expensive" [3] and difficult than urban health work Such opinions have apparently been accepted as sufficient justification for indifference in applying the remedy, without the necessary evidence to demonstrate either the truth or the fallacy of the accepted hypothesis The result of this accepted situation regarding cities and counties as health units has been a severe distortion of the once established facts The urban death rates have declined as the result of the application by well organized municipal health departments of known sanitary and hygienic principles The rural death rates have remained undisturbed as a result of the lack of application of the same principles, until controversy is rife in regard to whether the city or the county has the highest death rate

The fundamental principles involved in the prevention of typhoid fever are the same for the country as for the city, and they are the same the country over The same is true of smallpox, diphtheria, infant mortality and other diseases concerning which we have

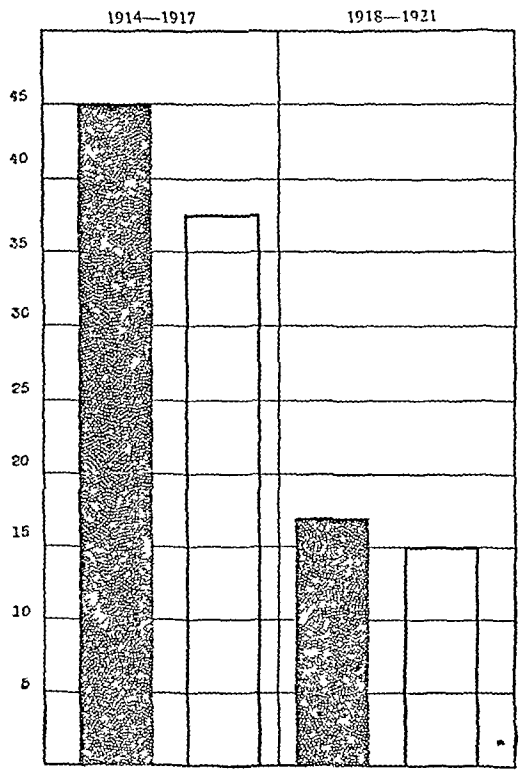

Chart 1 —Comparative typhoid death rates before and after the establishment of health departments shaded area cities white area counties

fairly accurate knowledge The only difference is in the practical application of the fundamentals involved to the given area And even here differences are apparent only in the execution of the details, and are not general Natural factors also favor the country dweller,

2 Rosenau Preventive Medicine and Hygiene p 475
3 Lumsden L L Pub Health Rep 36 2472 (Oct 7) 1921

and the present conditions are a reproach to our lack of efforts and intelligence

In order that some evidence might be made available to disturb the present equilibrium toward which we are approaching, an effort was made to determine the relative cost of, and effectiveness of, public health work in

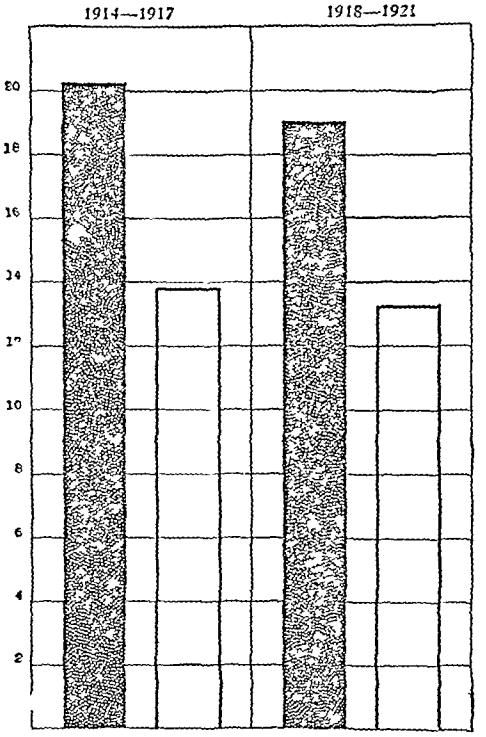

Chart 2 —Comparative gross death rates before and after establishment of health departments shaded area cities white area counties

urban and in rural communities A survey covering three cities and nine counties, all having well organized health departments, was undertaken [4] The survey covered a period of eight years and involved a total average annual population of 461,244 Of this number, 108,534 lived in the three cities, and the remaining 352,710 lived in the nine counties The cities ranged in population from 27,076 to 50,992 in 1921, with an average annual population for the four year period 1918 to 1921, inclusive, of 36 178 The counties ranged in population from 23,141 to 54 954, with an average annual population of 39,190 each for the four year period 1918 to 1921, inclusive The cities and counties surveyed were all located in the central two thirds of the state of North Carolina, for the reason that in no other locality were the imperative factors of age of units and extensiveness of activities so favorable, and because of the fact that it was essential that the counties and cities involved should have some definite relations to one another The counties and cities surveyed were all organized on a full-time basis on dates that were separated only by a few months This wholesale organization took place between Jan 1, 1917, and Jan 1 1918

The relative nearness of the dates of organization makes possible a division of the eight year period into two halves one from Jan 1, 1914, to Dec 31, 1917, a four year period prior to the influences of organized health protection the other from Jan 1, 1918, to

4 Cities of Charlotte Raleigh and Winston Salem Davidson Edgecomb Forsyth Lenoir Northampton Pitt Robeson Rowan and Wilson counties (North Carolina)
5 Wilson County Sept 1 1916 city of Raleigh Oct 10 1916

Dec. 31, 1921, a four year period during which the effects of organized public health efforts exert a positive influence on the respective communities. The nine county organizations were identical in personnel, plan of work and budget. The cities, while not so nearly identical as the counties, were similar in personnel, activities and budgets. In two instances the city health departments were organized and conducted for a short period by a personnel representing the United States Public Health Service. The three major problems of public health work—(1) the reduction of the filth-borne diseases of which typhoid fever may be regarded as the criterion, by means of sanitation, education and immunization, (2) the control of contagious and communicable diseases by quarantine, education and immunization, and (3) the reduction of infant mortality—were the activities that were first undertaken by the city and county health departments. It is possible, therefore, to compare with some degree of satisfaction the results after four years of organized effort, as expressed in the specific mortality rates, the gross death rates and the per capita expenditures.

TYPHOID FEVER

While there is no one perfect index by which to gage the results of the effectiveness of public health work, the one specific disease that approximates most closely this condition is typhoid fever. "The cause, mode of transmission, and prevention are well understood in theory and readily attainable in practice. Sanitation here finds its first fruitful field, hygiene, its useful lessons, and immunology its special application."[6] The degree of the effectiveness of the application of these principles will be very definitely expressed in the reduction of the specific mortality rate to a greater or lesser degree. And the application of these principles is the only known process that will abruptly alter the specific mortality rate in a community in which typhoid has been consistently prevalent over a period of years.

For the three cities, the typhoid death rate for the period 1918 to 1921, inclusive, shows a reduction of 62.13 per cent., as compared with the four year period 1914 to 1917, inclusive. For the same period of time the nine counties showed a reduction of 60 per cent. in the typhoid death rate.

The state as a whole (exclusive of the three cities and nine counties) for the same period of time showed a reduction of 49.55 per cent., which gives the cities a reduction in excess of the whole state of 20.24 per cent., and the counties a similar reduction of 17.41 per cent.

It is to be noted that while the cities show a slightly greater reduction in the typhoid death rate, the county rate is 11.7 per cent. lower than the city rate, and 3.8 per cent. lower than the rate for the state as a whole.

TABLE 1.—TYPHOID DEATH RATES*

	Cities	Counties	State
1914-1917	44.9	37.3	31.38
1918-1921	17.0	14.9	15.83
Percentage of reduction	62.13	60.0	49.55

* The statistics were supplied by the Bureau of Vital Statistics, North Carolina State Board of Health.

6. Rosenau, Preventive Medicine and Hygiene, p. 105.

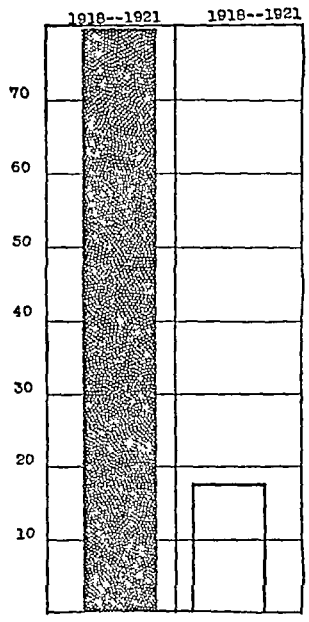

Chart 3.—Per capita expenditures in three cities and nine counties for health departments; shaded area, cities, white area, counties.

GROSS DEATH RATES

The composition of the population living in the rural area and the small towns, and in the cities as regards age, sex and nationality are of sufficient similarity to make a comparison of the gross death rates between the urban and country areas of considerable value.

TABLE 2.—GROSS DEATH RATES*

	Cities	Counties	State
1914-1917	20.3	13.8	13.10
1918-1921	19.0	13.3	13.33
Percentage of reduction or increase	—6.4	—3.6	+1.7

* The statistics were supplied by the Bureau of Vital Statistics, North Carolina State Board of Health.

For the three cities, the gross death rate for the four year period from 1918 to 1921, inclusive, decreased 6.4 per cent., as compared with the four year period 1914-1917, inclusive. For the same period the nine counties showed a reduction of 3.6 per cent. A very significant factor to be noted here is that while the cities show a much greater reduction in the gross death rates, the excessive gross death rates of the cities make the reduction relatively easier, and make a greater reduction possible in the cities. While the cities have shown a greater percentage of reduction of the gross death rates, the city death rates are still 30 per cent. in excess of the county death rates.

For the same period of time the gross death rate for the state as a whole (exclusive of nine counties and three cities) showed an increase of 1.7 per cent. All of this increase was for the year 1918, when the mortality from influenza reached its crest in the state. This fact makes the reduction in the three cities and nine counties the more significant.

PER CAPITA COST

All money expended for public health purposes should have a twofold objective (1) the reduction of morbidity and (2) the reduction of mortality. As yet we have no universally accepted standard for determining the reduction of the morbidity. Probably the mortality rate is as accurate an index of morbidity as any of the methods that have been advocated. At the present time the mortality rates must serve as the twofold index for estimating the degree to which the money that is expended has accomplished its original objectives.

In reducing the mortality rates 6.4 per cent., the three cities expended the sum of 79.9 cents per capita. The

TABLE 3.—POPULATION AND EXPENDITURES

	Annual Population	Annual Expenditures	Annual Per Capita Cost
Counties*	39,190	$ 6,835.60	$0.174
Cities†	36,178	28,911.92	0.799

* Data furnished by Bureau County Health Work, North Carolina State Board of Health.
† Data furnished by city health officers of Charlotte, Raleigh and Winston-Salem.

nine counties spent 17 4 cents per capita in effecting a reduction of 3 6 per cent in the gross death rates

CONCLUSIONS

The conditions in North Carolina are not representative of the conditions in Kansas or in Maine The cities and counties of North Carolina do, however, have a definite relation to one another The cities and counties of any other state have a similar relation

The parallel that has been drawn is not exact No similar comparison can be exact

The evidence submitted proves, conclusively, nothing It does, however, suggest that the charge that rural health work is more expensive and difficult than urban health work needs modification, if not a complete withdrawal

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ABSTRACT OF DISCUSSION

DR W S RANKIN, Raleigh, N C As to the importance of developing full-time county health departments, and the comparative ease with which such work is done, I think that all state health officers who have concerned themselves with this problem have been encouraged with their success in inducing the counties to see the importance of making arrangements for taking care of the health and lives of their people The full-time county health officer problem is, in a sense a psycho epidemic affair Get a few counties started and produce results Establish a fairly practical satisfactory plan to work and it is easy to carry the idea into the adjoining counties When one considers the opportunity in this particular field as compared to the opportunity of developing urban health work, and when one thinks of the 3,065 counties in the United States with only 6 5 per cent having full-time health departments, one can see what a vast field of opportunity exists In the South it has been much easier in recent years to develop rural than urban health work. The main restriction in rural health work is not the willingness of the people to put in a health department but the difficulty of obtaining health officers who can put through the idea that the people have endorsed In going into a county, the usual procedure is to see first an influential group of men In my opinion the influential group which should be consulted first is the professional group We have neglected too much the matter of conferring with the local profession It does not make any difference what we are going to have done in that county, it has to be done through the local profession The recognition and prevention of disease and clinical diagnosis are things for which one has to depend on the local profession The doctors ought to be seen first if for no other reason than as a matter of proper respect The profession, because it has not been consulted as it should have been, has not understood what was going on, and the lack of cordial relations has resulted in a certain indifference Ordinarily it is easy to get the approval of the county medical society to put in a county health department if one presents a reasonable proposition When health officers fail to get the approval of the county medical society for a full-time health department, it means that either the profession of that county is unreasonable or that the man who is selling the proposition is not a good salesman I want to add my full endorsement to the conclusions drawn by Dr Warren

DR J A HAYNE, Columbia, S C I have neither respect for nor confidence in any statistics but Dr Warren s statistics are extremely interesting He showed that with a per capita tax of 15 cents a considerable reduction could be made in the death rate of the rural population Coming from a state that has 85 per cent rural population, this is a matter of some interest The full-time health officer was stressed for a long time I never believed much in whole-time county health officers I do believe in whole-time county health departments County health officers cannot do well without sufficient support They must have the same support as a city department of health Some years ago we had the idea that in a county thirty miles long and twenty miles wide one county health officer could accomplish results by simply being there We found that this did not do any good except to provide a rather comfortable place for the man who had the position At present we believe in having county health departments with trained county health officers at the head, a nurse or two, sanitary inspectors and a clerk-stenographer, and if necessary a sanitary engineer and all the necessary equipment for doing proper health work Most counties have more than 30 000 population Would a city of 30,000 population think it was doing justice to the people if it did not have a health officer? Why does a county of 30 000 population think it is doing its duty to the citizens by having health officers who occasionally appear during epidemics and usually make themselves very disagreeable to the physicians? In South Carolina the medical profession of the state is the department of health of the state That is the proper way That is the board of health that is going to succeed When you leave out the physicians and try to put in health officers you are going to fail

DR W L HOLT Knoxville Tenn I had some experience in county health work in Los Angeles County, California All the rural health work in the county of 4 000 square miles was managed from the central office in Los Angeles We had two or three deputy health officers and about six nurses and two inspectors and did a great deal of work The splendid roads everywhere enabled us to travel fast by automobile, and I often traveled a hundred miles a day in visiting only a half dozen cases The cost of administration for each case is much greater than it would be with about six cooperative health departments, each covering both the urban and rural territory in its district Of the total population of about a million in the county about 800 000 were inside the thirty three cities and towns in the area and cared for by municipal health departments The remaining 150,000 were scattered all over the great county and were cared for by the county health department in an efficient but uneconomical way

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AN EXPERIMENT IN GRADUATE TRAINING IN OTOLARYNGOLOGY*

GEORGE E SHAMBAUGH, M D
CHICAGO

Facilities for providing training in otolaryngology have not kept pace with the public need for specialists or with the demands of those desiring to take up this work

A survey of the situation reveals the fact that substantial training in otolaryngology is being provided in a few special hospitals, but, of course, only for the limited number of men which the needs of these hospitals require as interns For most of those who attempt to get special training, there remains only the opportunity of taking such work as is provided in postgraduate schools Before the war, there had developed an increasing tendency for men to seek training by going abroad This work, like that of postgraduate schools, was restricted largely to attendance at clinics and to the taking of short intensive courses, suited especially, as review work, for those already established in special practice, but not for providing the proper fundamental training necessary for preparing men to be specialists in any field Even the training acquired by serving as intern in special hospitals has been more or less one-sided, for these men necessarily see an overemphasis on operative work, and have relatively little opportunity for the more difficult and much more important training in

* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

making careful examinations of patients and in diagnosis. The lack of facilities for acquiring a proper preparation for special practice, the faulty training acquired in our existing institutions, where operative technic is chiefly emphasized, with a neglect of proper attention to the more important and more difficult problem of acquiring training in making examinations and in diagnosing conditions, has resulted in the tendency for indiscriminate, unnecessary operating, which has, in recent years, brought a distinct opprobrium on the specialty of otolaryngology. In recent years, I have seen many more patients in whom there had been uncalled for operation on the nose and throat than patients in whom operative treatment seemed indicated.

The question of what constitutes the proper minimum standard of preparation for the practice of otolaryngology was discussed by the Council on Medical Education of the American Medical Association at its meeting a year ago.[1] The committee on otolaryngology, in its report, insisted that the work should be as much in the fundamental sciences as in the clinical study of cases, and that the work must be on the basis of genuine graduate instruction, in which the student is led to do his work independently under proper supervision, but not by the method of forced training, that is, by taking didactic courses and clinics. This committee further recommended that a proper minimum training for special practice should consist of one year's full-time work, one half of each day being spent in the laboratories of a university studying the fundamental sciences, the other half day in a properly equipped and properly organized outpatient department of a Class A medical school, where the student occupies the position of clinical assistant. On the completion of this first year's fundamental training, the committee recommended that a second year be spent in serving as intern in a special hospital, or as resident in otolaryngology in a general hospital. When such positions are not available, it was recommended that an additional six months be spent pursuing special work in other centers, such as selected courses in postgraduate schools, or by serving as assistant in the office of a specialist.

I desire at this time to point out some conclusions regarding graduate training in otolargyngology which we have reached, after more than two years' experience, in an effort to carry out the principles laid down in the report mentioned above.

The first conclusion of primary importance is that facilities for providing the proper sort of graduate training in our specialty in any institution exist only for a limited number of students. This is a fact which every institution must learn before it can hope to carry out successfully the proper sort of graduate training, as outlined above. The number of graduate students in any school is determined by the number of clinical assistants required to care properly for the work in the outpatient department. The principle is exactly the same as that which applies to the work of interns serving their fifth or hospital year, now required before receiving the degree of doctor of medicine. The number of interns in a hospital is determined by the number of men required to take proper care of the hospital work. It would be just as logical for a hospital to adopt the plan of taking on a superfluous number of interns and then attempting to substitute for actual intern work some sort of didactic instruction, attendance on clinics, etc., as it is to insist on these methods of instruction for large classes of graduate students in otolaryngology. The first principle in properly conducted graduate instruction is to lead the student to do his work independently, not by relying on methods of forced instruction, listening to didactic lectures or watching other men do their work.

In our outpatient department at Rush Medical College, we have, at present, facilities for only eight clinical assistants. Our class of graduate students in otolaryngology, therefore, is limited to eight men, who remain with us for one full year, working every afternoon in the outpatient department. This may seem a small number of graduate students for an institution with the clinical facilities of Rush Medical College. As a matter of fact, it is all that we are at present able to take care of properly, with our facilities. We feel satisfied that we are doing our full share by providing proper training for eight men each year. If only twelve of our best equipped Class A medical schools would arrange their work to provide proper clinical facilities for a similar number, the estimated needs in this country for specialists in otolaryngology would be amply provided for. The problem, therefore, of providing this first year of fundamental training is not a formidable one, but is easily attainable in our existing institutions.

I wish to outline briefly the way we have worked out the organization of the outpatient department, so that the work of these clinical assistants is properly supervised and directed, while they are, as far as possible, permitted to do the actual work of the clinic.

Two clinical assistants are taken on each quarter, January, April, July and October. During the first quarter, they are put to work examining the simpler types of nose and throat cases, learning how to make accurate records of their findings. For their direction in this work, we have provided an elaborate outline of the things to look for in making these examinations. The second quarter is spent in a similar manner in the ear room, learning how to make the various tests and the compilation of proper records. During the third quarter, they are at work again in the nose and throat room, where they are entrusted with the care of the more complicated cases and are permitted for the first time to carry out such treatments as require special technical skill, as, for example, the irrigation of sinuses. The fourth quarter is spent in the operating room, where they are taught the technic of operations and, eventually, are entrusted with most of the routine operating.

In this way, we are able to see to it that the student learns how to make examinations and to recognize the proper indications for surgical treatment before he is taught the technic of operating. A neglect of this fundamental principle has been responsible for the widespread ill-advised indiscriminate operating on the nose and throat with which this country has in recent years been flooded. The chief menace from this source has come from the practice introduced in many of our general hospitals of teaching interns in general medicine such operations as the enucleation of the tonsil, the removal of turbinated bodies and the resection of anatomic variations of the nasal septum. These men have had no opportunity to acquire an appreciation of the proper indications for these operations, and it becomes clear as day that men with such training cannot avoid the risk of doing unnecessary operations. It is a relatively simple matter to teach a student the tech-

1 Graduate Instruction in Oto-Laryngology. Report of Committee at Annual Congress on Medical Education and Licensure, A. M. A. Bull. 15: 40 (Jan. 15) 1921.

mic of operating, whereas, it requires many months of careful painstaking work to instil an adequate appreciation of the proper indications for these operations

The direction and supervision of the work of these graduate students serving as clinical assistants is entrusted to a staff of regular appointees in the department The staff is arranged in three groups, each group being in attendance but two afternoons of the week Our aim is to have three men in each group These men act as chiefs of clinic, directing and supervising the work of the clinical assistants, deciding questions of diagnosis, and what treatment is to be carried out The introduction of graduate students as clinical assistants has made the work of the regular staff more interesting and profitable, since they are relieved in a large measure of much of the routine work The patients are receiving better care than we were ever able to provide when we relied on physicians from the city to come out to help us with the work The graduate students are enthusiastic over their work, for they appreciate that they are getting a sort of training which no amount of didactic course-taking or attendance on clinic could give them

We find after a trail of more than two years, that our experiment is a complete success, and we believe that we have solved, for a small group of graduate students, the problem of acquiring proper training for undertaking special practice

I have discussed here only the half day devoted to the clinical study of cases Our plan contemplates spending the other half day doing the same sort of independent work in the laboratories at the University of Chicago, this time being largely spent in acquiring a first-hand knowledge of the complicated anatomy of the ear, nose and throat While pursuing this anatomic work independently, the students are encouraged to take advantage of lectures at the university covering such subjects as the physiology of the special senses, the anatomy of the central nervous system the anatomy of the special sense organs and the physics of sound Attendance on the lectures, two or three hours each week, of one of these courses each quarter does not interfere seriously with their major work in anatomy We believe that, by attending such lecture courses the students receive an introduction to those subjects which prepares the way for their pursuing such studies independently as facilities and inclination permit Those who desire may substitute, for part of their independent work in anatomy, similar work in the department of pathology

We aim to encourage these men, on the completion of the year's work with us, to secure, if possible, a place as intern in a special hospital, or as resident in otolaryngology in a general hospital, where they will have an opportunity of seeing more of the unusual surgical procedures We feel that eventually, when several of our Class A medical schools arrange their work to provide similar training each for a suitable group of clinical assistants, special hospitals throughout the country will choose to select their interns from men who have completed this first year's training We look forward also to the further development in various medical centers of short intensive courses covering the different phases of our special work, to which will be admitted these students who have completed the year's work as clinical assistants, as well as others who are already established in special practice We confidently hope that the time is not far off when such courses will not be offered as a substitute for the real graduate training as outlined for the Council on Medical Education in the report already cited

We wish to emphasize that the program here outlined as proper training for those preparing for special practice does not mean the giving up of instruction to large classes of graduate students, either in postgraduate schools or through similar courses undertaken by university medical schools But we do insist that this type of work can never form the basis of proper preparation for special practice, even when pursued over a period of months or years The foundation work of a proper preparation must consist in the student's receiving that training which can be obtained only by his serving an apprenticeship in actual work, such as the facilities of a properly conducted outpatient department can provide We repeat that special courses, clinics, etc, such as are provided in postgraduate schools and in some of our university medical schools, are suitable as advanced work for those who have had the first year of fundamental training, or as review courses for those already established in special practice They should not be offered as a substitute for the training we are advocating in this report Facilities for this kind of work exist in any institution only for the limited number of students necessary to aid in the proper care of patients in the outpatient department

The granting of a certificate suitable for display in the physician's office, setting forth that the holder has had adequate preparation for taking up special practice, would aid the public materially in distinguishing the bona fide specialist from the impostor, the pseudo-specialist recruited largely from the ranks of derelict general practitioners, whose sole preparation consists of a few weeks' or months' attendance on courses in postgraduate institutions, where they have acquired a smattering of knowledge relating chiefly to the technic of a few operations, but have acquired no proper appreciation of their indications, and who lack entirely the training necessary to prepare men for special practice Such certificates should properly be issued by the institution in which the first year's work has been taken, the certificate being granted only on the completion of such additional work as meets the approval of this institution

There has been much discussion of the question of requiring some sort of examination before granting a certificate setting forth that the holder has had the proper training preparatory for special practice The ophthalmologists have a special board for giving these examinations Our feeling is that an examination is not called for, and that a certificate stating that the student has completed certain work, including a year such as we have here outlined, is in itself a better assurance than any examination could possibly be that the holder has had proper training

As regards the granting of higher degrees, we can expect the universities to stand as ready to grant such degrees to students in otolaryngology as in any field, whenever the work pursued meets the established requirements for the granting of these degrees Those who are ambitious to hold important positions in the departments of otolaryngology in the university medical schools should be encouraged to pursue the studies leading to the degree of Ph D in otolaryngology, exactly as the men preparing for positions in the departments of anatomy and physiology intend to gain the degree of Ph D in anatomy or physiology before beginning their careers in these departments

CONCLUSIONS

1 The practice of otolaryngology has degenerated perhaps more than has the work in any other field of medicine This is the result of a widespread tendency for men to restrict their practice to this field with no preparation except a little training in the technic of a few operations The extent to which the work in this field has degenerated is indicated by the practice, common in some sections of our country, of visiting nurses selecting children for tonsil and adenoid operations, sending them to hospitals, where, often without examination, some so-called specialist proceeds to do the operation I should prefer to see the nurse trained to do the operation, provided a properly trained specialist made a discriminating examination and selected those cases in which surgical treatment was really indicated This indiscriminate operating on the tonsils and adenoids is a fair index of the general laxity regarding practice in our specialty

2 The bettering of existing conditions must be brought about largely by pressure from the rank and file of the general medical profession It should be our task to aid, by a propaganda of education, in crystallizing, in the minds of the general practitioner, ideas regarding the proper preparation for special practice Two popular fallacies must be dispelled the belief that limiting practice to a particular field makes of one a specialist in that field, and the idea that in taking up the practice of a specialty one is undertaking something easier than the practice of general medicine The medical curriculum aims to prepare its graduates for the practice of general medicine To be a specialist in any particular field should mean to make an exhaustive study of that field

122 South Michigan Avenue

ABSTRACT OF DISCUSSION

DR JOSEPH C BECK Chicago I agree with everything Dr Shambaugh said We have, perhaps, enough places where men can get this training but they are not very well known So far as I know, Dr Shambaugh's place is the only one to which we can refer men for this one year of systematic work I have seen the men afterward, and they certainly are well prepared Especially is this true in regard to their surgical experience One very important point is that the men who know how to teach are not, as a rule, giving the time to teaching That is the trouble in this country so far as teaching and training men is concerned That is the reason so many men go abroad Dr Shambaugh touched on the point of training the individual man Put one or two men in your office That is the best preparatory training they can get I have been training men for fifteen years I do not take any man for less than two years, because I cannot give them a sufficient number of surgical cases in one year

DR CHARLES G STIVERS, Los Angeles Dr Shambaugh's excellent paper is devoted almost exclusively to the physical features of the otorhinolaryngologic side, and he deplores the lack of training in almost exclusively the surgical features of these organs We are given organs to use and the function of the organs of throat, mouth and nose is to be servants of the special senses Nothing has been said about the restoration of function after putting all these organs in proper condition I deplore the fact that thousands of men are doing ill advised and hasty operations on the nose and throat as I do the fact that they know nothing whatever about the restoration of function of these organs after operations have been done and I feel that any group instruction which fails to recognize that the function of these organs must be preserved and restored, after destructive surgery has been done, will fall short of its mission.

DR WENDELL C PHILLIPS, New York In his recent address before the Congress of American Physicians and Surgeons in Washington, Dr Frank Billings expressed the opinion that overspecialization in medicine was becoming a grievous sin in America, and there probably is more or less basis for such a criticism My own response to that statement is that there is overspecialization in America so far as pseudospecialists are concerned, but underspecialization so far as real specialists are concerned I have had considerable experience in graduate teaching I have thought seriously on this subject and this experience in teaching, together with a careful study of the whole problem of preparation of specialists in this country, has given me rather deep convictions on the subject Up to a few years ago the training that was considered the best for a young man to receive in order that he might know the field of specialism in diseases of the nose and throat was to secure an internship in one of the great special hospitals of the country, and in the Manhattan Eye Ear and Throat Hospital there has been a great demand for these positions We have eleven house staff positions and often fifty or sixty men apply The reason men seek these positions is that they furnish such unusual opportunity for acquiring the surgical technic of nose throat and ear operations It is very evident that in a hospital where nearly 1,000 patients come each day as outpatients where from thirty to sixty-five ether operations are performed daily, when a young man is inducted into that special work surgery occupies his entire time and thought One can see how he becomes imbued with the surgical side of it during his early years He serves his term in an institution of this kind, and becomes an expert in surgical procedure, but when he goes out into practice it takes him some years to acquire a knowledge of the basic principles of the subject, and he begins to feel the seriousness of the position in which he finds himself placed Dr Shambaugh has struck the keynote of the whole problem, and I wish that this section could go on record that any man who proposes to enter our specialty must first go through this basic training in the fundamentals of the work, learning the physiology, anatomy and other branches as Dr Shambaugh teaches them, and then after he has gone through that experience secure a position in a special hospital and learn the surgical part of it

DR CHARLES W RICHARDSON Washington, D C I have been associated for a number of years with this work of trying to find the best method for the education of specialists in otolaryngology Dr Shambaugh is the first one on that committee to be able to carry this work into practical trial and I do not know of any method that is better than that which he has adopted We have previously taught men backward We have been conducting them into the field of surgery and neglecting their proper clinical instruction by failing to give them the advantage of dispensary work In the special hospital of which I am a staff member, we insist that the interns work in the dispensary They can do a tonsillectomy, they can operate on the septum or on the sinuses, but take them to the dispensary and they do not know how to depress a tongue properly they cannot pass a catheter—they cannot do the ordinary, routine things necessary for diagnosis to say nothing of practical ordinary treatment When we see this we cannot praise Dr Shambaugh too much for his work in this line Another phase of the subject that is equally important is undergraduate teaching There is too much teaching of the young man in specialism In the universities the idea is that we are to teach medicine to the young men in the medical course, we are to make them general practitioners not specialists Any man who goes from the benches to specialism is a failure

DR M A GOLDSTEIN, St Louis The old men are essentially clinicians and diagnostic experts I subscribe to everything Dr Shambaugh said He is an altruist, and so am I I believe that his whole problem is ideal but in greater part it can be carried out practically I can count on my fingers

the men of the 'Old Guard" who are grounded in otolaryngology and in micropathology Everything in the discussion so far has tended to a consideration of the clinician, the diagnostician and the technical expert, but we must not lose sight of micropathology That is the fundamental basis on which we should build Dr Pierce, who has charge of the Casselberry prize fund, will tell you that there has not been an applicant for that honor A number of valuable prizes are offered by the three national organizations, but I think that on only one occasion has any prize been given for research work If we want to compete with the work done abroad we must ground not only our young men but also our old men, in the fundamentals and the fundamentals consist not only of clinical knowledge and diagnosis, but also of micropathology

DR NORVAL H PIERCE, Chicago I would not have you think that Dr Shambaugh's training of specialists is a makeshift affair I assure you that it is very much alive and practical He is doing very good work with somewhat limited facilities The whole proposition is founded on the fundamentals The advances in otolaryngology and the improvement of the practitioners of otolaryngology must come from their fundamental knowledge of the histology, the anatomy and physiology, normal and pathologic of these organs I think it is a mistake to divide the two—one-half fundamentals and the other half clinical I think it would be better to force a man to spend a given length of time on the fundamentals alone, before he takes up the clinical training The little details of office practice soon wear away the fervor of the otolaryngologist Unless one has intelligent training back of one unless one has the dreams of the laboratory to sustain one, one is bound to degenerate That sustaining imagination starts in the fundamentals, not in the taking out of tonsils and operating on septums If we are going to gain a place in medicine, it must be through research and investigation We have funds available, but no one makes any effort to win the prizes It is deplorable I do not believe I am wrong when I say that there has not been in this country a single case of otospongiosa or otosclerosis diagnosed during life that has been examined histologically We are fed from foreign sources We have become supine because of our lack of courage and training and, unless this is changed, I do not believe that we can maintain this quasiequilibrium that we have been maintaining for a few years past

DR JACQUES HOLINGER, Chicago The question of the education of specialists and advance of the science of anatomy, physiology and diseases of the ear, nose and throat is a question of money and of much money In order to make any real advance and do original work, especially laboratory work, to amount to anything three things are necessary a very large clinic with from 10 000 to 12,000 patients a year, a very large, first class laboratory and good connection with abundant postmortem material which can be had absolutely fresh Unless one can get these things together there is no possibility of starting on the fundamental training of specialists The one year course of Dr Shambaugh is very nice However, it will be admitted that instead of one year you could make it three or four years to go through all the phases of anatomy, physiology embryology clinic and laboratory work and the operating room You would come nearer to having specialists who are masters of their branch

DR. WILLIAM B CHAMBERLAIN, Cleveland I want to add my word of commendation to what Dr Shambaugh has said Two things confront one in the establishment of such a plant, first the proper care of the postgraduate student, and second the proper care and attention to the undergraduate student at the same time That is one point which Dr Shambaugh did not mention and which he has very well cared for In Class A schools while we are taking care of the postgraduate students we must not forget that we are also obligated to undergraduates, and the two cannot be confused I was glad to see that Dr Shambaugh laid such stress on the fact that the men were there six months before they were allowed in the operating room As many of the speakers have said, we have overstressed the technical part, the purely operative training I have maintained with my students for many years that the technical part of our specialty is the least We can take any good mechanic, any good machinist, any good carpenter, and make just as good an operating specialist as any of ourselves, but the development of the man in medicine and surgery with medical and surgical judgment is something far more difficult to obtain For years we have had a universal panacea for stupidity in Cleveland A visiting nurse examines a stupid child, and sends the child to the nose and throat clinic, his tonsils and adenoids are removed, and he is supposed to return to school one of the most brilliant pupils in his class Unfortunately, this does not hold true The diagnosis is made by the visiting nurse and the operation is done by the specialist under her direction It would be far wiser if the diagnosis could be made by the specialist and the operation performed by the visiting nurse Any Class A medical school can establish such a plant if it has the men with inspiration to do it The most difficult thing in our postgraduate schools is to provide suitable instructors Not that we do not have these men but the men who have the knowledge and the ability are not willing, or cannot afford, to spend the time, whereas in foreign clinics a large part of the annual stipend comes from association with students

DR GILBERT E SEEMAN Milwaukee I have been for some years interested in the medical school of the University of Wisconsin We now have the problem before us of completing our medical course and it is a gigantic problem, particularly in the matter of the adjustment of compensation It is our experience in the university that in the field of medicine outside the operative field, we have no very great problem in the matter of getting teachers, of obtaining adequately trained men to head departments, at the ordinary professorial salary But in those fields involving operative work it is our experience, first, that we have difficulty in getting young men adequately trained to take subordinate positions, and secondly that we cannot get experienced men who are willing to take the professorial salary and head the departments I think the reason largely lies in the trend in medicine and particularly in the field of otolaryngology It seems to me that in recent years it has developed into a matter of tonsil operations in most sections of this country Young men measure their success, and the success of all men, by the number of tonsils they remove, the number of submucous operations they do and not at all by the knowledge they have of anatomy and physiology I am very glad, indeed to hear an expression of sentiment deploring the condition which exists The men in this specialty have developed into tonsil operators and unless the trend is stayed by these older men in the specialty who have the authority to speak I believe that the specialty of otolaryngology will come on days that will be sad for those men who have tried to prepare themselves adequately in medicine and adequately as specialists in this field

DR GEORGE E SHAMBAUGH Chicago It is necessary, first of all that we arrive at a definite conclusion as to what we should strive for in the matter of preparing men for special practice What we are advocating for a proper basis for training is the plan that has been accepted as a proper basis for training abroad for many years The courses which were provided American students abroad were not the courses which their own men took in getting their preparation They followed the method which I am advocating namely, serving a period as clinical assistant in a properly conducted department where each man worked out his own salvation This cannot be accomplished by sitting on benches and listening to some one tell how he did the work No better illustration of the necessity in this country for more training in diagnoses before men are taught operative technic can be found than the statistics given in the paper just read by Dr New wherein patients had been subjected to operations repeatedly under circumstances in which any properly trained specialist could tell them at once that such operations were entirely useless I emphasize that too many men limit their prepara-

tions to acquiring some operative skill without any proper knowledge of the proper indications for operation The desirability of stimulating research work has been emphasized by several speakers This is a very important matter I am inclined to think that this result will best be accomplished by the establishment of fellowships which will make it possible for younger men who have completed one or two years of this special training to continue advanced work there a year or more With the long period of medical training now required, unless some special assistance is provided in this way most men are forced to devote their entire time to the problem of making a living

TUBERCULOSIS AMONG THE EX-SERVICE MEN

WITH A SPECIAL REFERENCE TO ITS BEARING ON PUBLIC HEALTH *

HUGH S CUMMING M D
Surgeon General United States Public Health Service
WASHINGTON, D C

A general impression apparently prevails among the laity that the incidence of tuberculosis was greatly increased in the United States by the World War It is not surprising that this idea is current Care of the disabled has naturally been a matter of general solicitude Difficulties encountered in providing sanatorium treatment were given wide publicity and sometimes exaggerated Moreover, the appalling increase in tuberculosis which occurred during the war in most countries of Europe, and which still prevails in Austria and Russia, has become common knowledge Among all those nations, including some nonbelligerents, whose food supplies were seriously affected and which felt keenly the stress of war and its results, tuberculosis increased, indeed to an alarming extent It is natural therefore although this country was fortunately spared the pinch of famine, the desolation of invasion and many of the fears, griefs, deprivations and other forms of stress which try the spirit, waste the body and therefore predispose to tuberculosis, that our citizenry should anticipate an increase of tuberculosis here and in the same pride with which they demanded a place in the fighting line, count their casualties in kind

It may be recalled that in 1919, when making a forecast of hospital needs, it was estimated by the Public Health Service that approximately 12 000 beds would be required within two years for tuberculous veterans It is also a fact that by the end of April, 1922, there were 11,346 tuberculous veterans hospitalized at government expense in the United States, as well as considerable numbers receiving compensation for that disability who declined hospital care The incidence of tuberculosis was, however, only slightly increased in the United States during the war, either among males of military age or any other class of population The forecast of hospital needs referred to above, which has proved to be approximately correct, was made merely in accordance with the known incidence of tuberculosis among the general population in the age groups concerned A glance at the curve (Fig 1) shows how sensitive the tuberculosis mortality is to collateral influences The slight but perceptible rise in 1916 and 1917 is presumably due to the increase in living costs or perhaps, more exactly, the degree to which this increase exceeded that in wages or other rewards for production To these causes must be added in 1918 that of the epidemic of influenza There seems little doubt that these increases were not related to actual participation in the war

The curve (Fig 2) comparing the mortality rates of 1915 and 1920 shows a marked postwar decline in tuberculosis mortality which is even more marked among males, including those of military age, than among females It is, I think, generally accepted that the incidence of tuberculosis in any country, in both sexes and at every age except infancy and childhood alone, reflects with great precision the living and industrial conditions prevailing It is therefore not strange that tuberculosis was not increased among our troops, who were generally well fed, well housed, and well clothed, or, except to a very slight degree, among the population as a whole

The War Risk Insurance Act of Oct 6, 1917, promised hospital care to disabled veterans, but made no provisions for the construction or operation of hospitals, nor did it name the agency whereby the proposed care was to be provided It was, of course impossible to reckon at that time with the desire which manifested itself as soon as the armistice was signed for discharge from military and naval service This prevented extensive use of military and naval hospitals for discharged men, who usually evidenced a distaste for all things connected with military life It was a perfectly natural reaction, considering the psychology of the situation and one which in no way reflects upon the excellent treatment provided by the Navy and Army hospitals

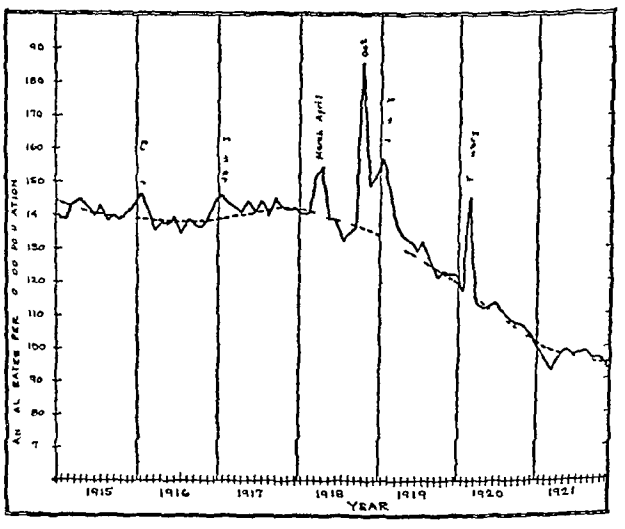

Fig 1.—Recent decline in mortality from all forms of tuberculosis monthly rates from 1915 to 1921 in twenty four states (in 1921 provisional data for only fifteen states were available) normal seasonal variation having been eliminated

It was not, therefore, until March 3, 1919, that by act of Congress the Public Health Service was named as the principal agency whereby hospital and medical care was to be provided The emergency was serious To place a properly trained physician in each city or large town in all parts of the United States, to find hospital beds for the widely scattered disabled veterans who applied for examination and treatment in all parts of the United States, and to equip, man and operate

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

such institutions in various parts of the country as could be converted to hospital use—these were some of the urgent problems that arose The tuberculosis patients caused considerable concern, and it was early apparent that the emergency hospital provision was at once necessary Congress, in failing to act favorably on the recommendations contained in House Document 481, which was transmitted by the Secretary of the Treasury, Dec 8, 1919, reflected the idea, not wholly extinct among medical men that permanent hospitals are not necessary for the treatment of tuberculosis The estimates made in House Document 481 provided for the construction among other institutions, of nineteen hospitals for tuberculosis with an aggregate capacity of 9,330 beds, at an approximate cost of $32,500,000 This was for tuberculosis hospitals alone The plan contemplated the construction of permanent institutions located near the centers of population to be served It

TABLE 1—MORTALITY FROM TUBERCULOSIS IN THE UNITED STATES 1915 AND 1920*

Age Period (Years)	Death Rate per 100 000 Males		Death Rate per 100 000 Females		Per Cent Decrease in Mortality in 1920 Over 1915	
	1915	1920	1915	1920	Males	Females
All forms						
All ages	156 1	117 2	124 4	107 8	24 9	13 3
Under 5	84 5	69 [illegible]	77 2	53 9	26 2	30 2
5–9	22 6	18 6	22 9	18 7	17 7	18 3
10–19	49 6	39 3	76 1	68 9	20 8	9 5
20–29	186 3	134 5	184 3	172 2	27 8	6 6
30–39	240 7	173 0	187 1	153 2	28 1	18 3
40–49	263 9	189 0	157 4	135 6	28 4	17 6
50–59	2[illegible] 9	198 2	131 1	119 3	21 6	11 0
60–69	248 4	216 6	158 7	138.7	12 8	12 6
70 and over	200 2	193 5	193 4	162.8	12 1	15.8
Pulmonary tuberculosis						
All ages	136 0	102 9	10[illegible] 5	94 1	24 3	12 5
Under 5	2[illegible] 8	21 2	2[illegible] 7	18 2	17 8	29 2
5–9	7 0	7 0	9 9	8 9	11 4	10 1
10–19	40 3	31 6	66.8	60.2	21 6	9 9
20–29	171 2	124 6	171 8	160 8	27 2	6 4
30–39	22[illegible] 1	162 6	169 9	143.2	27 8	15 7
40–49	24[illegible] 1	177 1	140 2	113 9	27 [illegible]	18 7
50–59	234 1	184 1	120 4	106 9	21 4	11 2
60–69	226 1	199 5	141 7	12[illegible] 3	11 8	11 6
70 and over	196 3	177 8	173 9	141 5	9 4	18 6

* Specific death rates per hundred thousand for males and female compared for 1915 and 1920 in twenty four registration states with percentages of decrease on revised intercensal population estimates for July 1 1915 and July 1 1920 but using the 1910 sex and age distribution The twenty four states are those constituting the death registration area in 1910 Acknowledgments are made to Dr W H Davis Chief Statistician for Vital Statistics Bureau of the Census for the use of mortality data from original tabulation sheets

visioned ample grounds with lawns and trees, and restful environments in salubrious but not isolated places Unfortunately, however the treatment of tuberculosis became associated in its early history with the tent, the shack, the lean-to with life in the open under primitive conditions The early advice, "Go West, and rough it," was recalled It was necessary to explain again and again that a tuberculous patient needs highly specialized care, calling for modern hospital facilities It was necessary for this conviction to find place gradually and for public sentiment to lead the way to the necessary appropriations

As an evidence of the difficulties encountered at one critical period, it may be mentioned that on Dec 24, 1919, the President approved the amendment to the War Risk Insurance Act, which increased the allowance for total temporary disability from $30 to $80 a month On the same day in anticipation of an increased number of claimants the Public Health Service solicited the assistance of the American Legion to find additional hospital accommodations for tuberculous patients believing that the criticism which the government was at that time facing might be in part ameliorated or its cause mitigated by concerted effort of the comrades of those needing treatment, to find hospitals suitable for their care The Legion, in response, sent out requests from its headquarters to posts in all parts of the United States, and its members cooperated with our field officers to the desired end A glance at the chart will show the extent to which contract hospitals were utilized in this very trying period We are all familiar with the

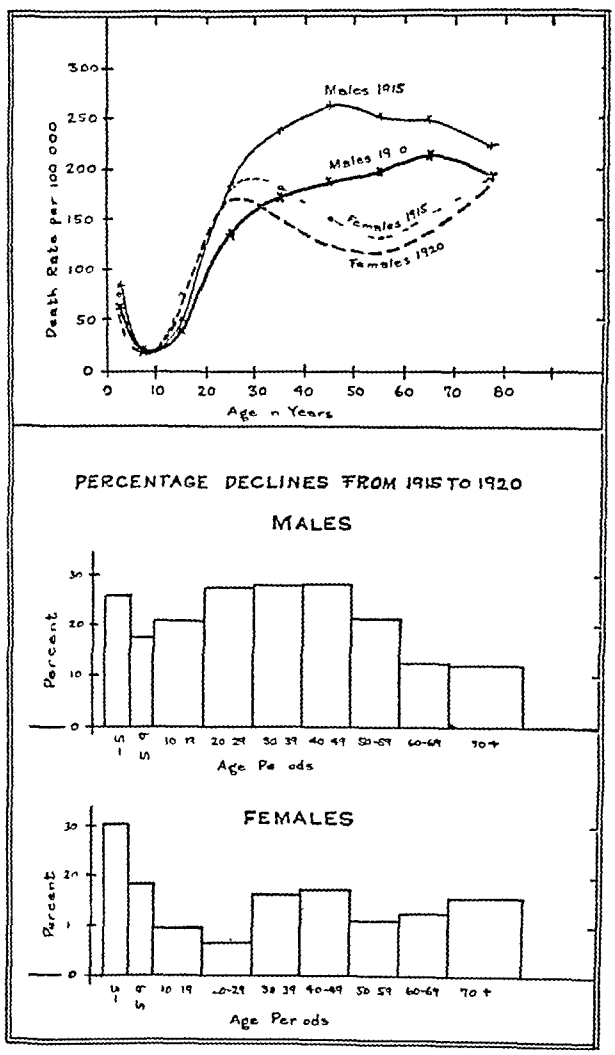

Fig 2—Specific death rates for all forms of tuberculosis in twenty four registration states compared for 1915 and 1920

criticisms which arose concerning their use I have no apologies to make The institutions were representative of the medical care prevailing in the respective communities at that time Some of the institutions were excellent Others were unsuitable, and these were abandoned as rapidly as their unsatisfactory condition was determined by the district inspectors detailed for the duty Whether it would have been better for the federal government to arrange with state sanatoriums and those operated by other political units for the care of all tuberculous patients in this manner is open to question The plan had many advocates among members of the National Tuberculosis Association A plan whereby such hospitals might have been enlarged by federal funds for tuberculous veterans was foredoomed to failure because of the distaste evidenced on every

hand to the admission of veterans to any hospital which cared for free patients, or, according to the vernacular, "charity patients" Objections were made to the use of state sanatoriums, county sanatoriums, and such excellent institutions as Oak Forest in Chicago, Seaview Hospital in New York City, and the Branch Hospital in Cincinnati There appeared, therefore, no choice but to proceed with the development of temporary hospitals for which some funds were provided but which, according to the law, could not be used for permanent construction

The character of the temporary army hospitals of the cantonment type is too well known to merit a description The widely separated, one story wards, the connecting corridors with numerous inclines, the numerous heating units, the fire risks, the difficulty of supplying hot food, are well known The sagging foundations, warped floors and leaky roofs of these temporary buildings were eloquent allies at a time when it was necessary to plead for new hospitals Some of the attacks made upon the government, notably in the case of the Fox Hills Hospital, were, possibly, not wholly devoid of a well-meant but ill-advised effort to force the appropriation of necessary funds to build permanent institutions

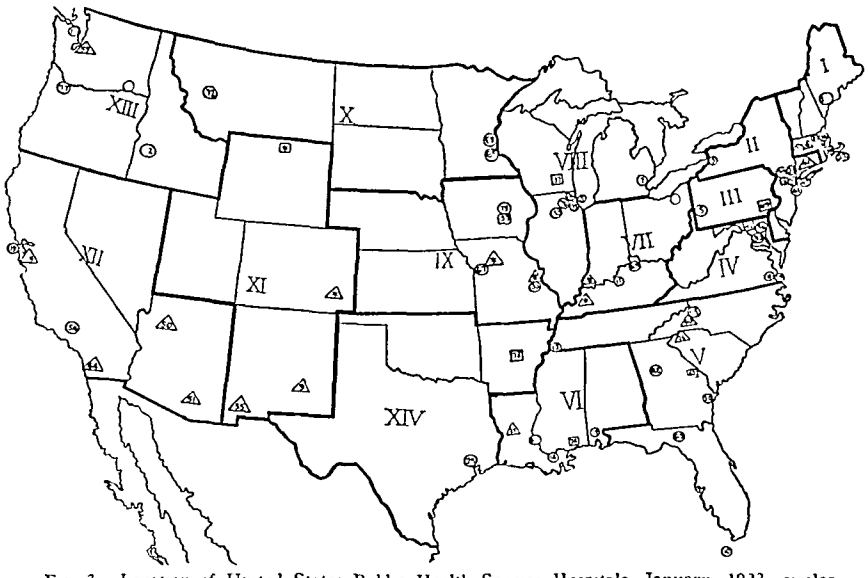

Fig 3—Location of United States Public Health Service Hospitals January 1922 circles indicate general hospitals triangles tuberculosis hospitals squares neuropsychiatric hospitals the numbers being definitely located in Table 3

The tuberculosis hospitals taken over from the Army, in addition to those at Markleton, Pa, and Deming, N M, which were abandoned as unsatisfactory as soon as more suitable hospitals had been obtained, were

No 24, Palo Alto, Calif, 650 beds
No 26, Greenville, S C 700 beds
No 27, Alexandria, La, 600 beds
No 41, New Haven, Conn, 500 beds
No 50 Prescott, Ariz, 765 beds
No 55, Fort Bayard, N M, 1,120 beds
No 60, Oteen, N C, 1,100 beds
No 64, Camp Kearney, Calif, 550 beds

To supplement these, a temporary hospital of 290 beds, intended chiefly for winter use, was established at Tucson, Ariz, at Pastime Park, cottages built from salvaged lumber supplementing the existing buildings The abandoned Indian School at Tacoma, Wash, was also converted into a temporary hospital of 278 beds

One of the difficulties in operating hospitals of this group was the lack of quarters for personnel The Public Health Service has a corps of commissioned officers, but lacks an enlisted personnel Its employees are all civilians who may leave at will and whose contentment is often conditioned on the presence of their families, of schools, social advantages, and other refinements of living not demanded or expected under military conditions From the patients' point of view it must also be admitted that the gloomy outlook afforded by the war time buildings, now four years old, is depressing

From the beginning of the work by the Public Health Service, the hospitalization and the transfer of patients was, so far as possible, decentralized A disabled soldier coming under observation at any point in the field and found to be in need of hospital care was immediately offered it, if not in one operated by the government, then in the best contract hospital available According to a custom which has prevailed in the Public Health Service for more than a hundred years, tuberculous patients are routinely admitted as a temporary measure to any of its general medical and surgical hospitals The tuberculosis wards in our hospitals in Boston, New York, Baltimore, Chicago and other large cities, which were important clearing stations, often contained several hundred patients each The tuberculous patients at Fox Hills indeed, sometimes outnumbered all others The resolution which the American Medical Association adopted at the Boston session last year, advocating this practice for civil hospitals, has served to disarm unjust criticism and to strengthen the government in a useful practice Your action therefore, wisely taken in the general interests of public health everywhere, has served the government in a trying administrative problem

The demand for climatic change was another heritage from an earlier generation Tuberculous patients and their friends demanded a transfer to special climates from northern, southern eastern, western and central portions of the United States The spirit of restlessness engendered by the war was manifest As a further evidence of this, a popular report is current that 25 000 tuberculous ex-soldiers are found to have migrated to Colorado alone, only 2 per cent of the hospital patients coming under observation in that state being natives of Colorado It was necessary to refuse many unwise requests for the removal of tuberculous patients, unsuited by reasons of physical condition, from hospitals where they were under treatment to other hospitals in the arid Southwest So far as I am aware, however, there are no instances in which a sick man in any part of the United States was not provided with or at least offered hospital care, of the standard prevailing in that community, without more than a few days' delay The most insistent demands were made for the transfer of terminal cases "Give this dying man a chance" was a frequent expression typical of the character of requests daily received It was exceedingly difficult and sometimes futile to attempt to explain

that the importance thus attributed to climatic influence is out of harmony with modern scientific thought, nor was the problem rendered easier by the fact that large numbers of reputable physicians throughout the country appeared to entertain views long since believed obsolete

The hospitals devoted to the care of veterans were manned almost exclusively by personnel from the military and naval forces Medical officers, nurses, reconstruction aides, dietitians and laboratory technicians were almost without exception with military experience, many of them having served overseas All, therefore, were well prepared to sympathize fully with the needs of their patients The American Legion is well represented in membership among both patients and personnel, and at some of the hospitals the local post constitutes the largest in the community, and sometimes the largest in the state

It need cause no surprise that special training in tuberculosis for officers was necessary The lack of adequate instruction in this specialty in most medical schools is well known, while the exclusion of tuberculous patients from general hospitals, a still all too common custom and the practice of sending tuberculous patients "away' have combined to alienate the average physician from a knowledge of tuberculosis The excellent Army schools in tuberculosis which were

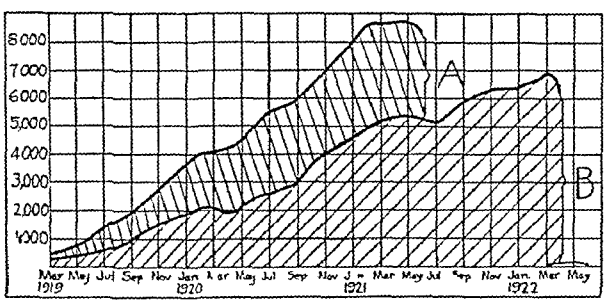

Fig 4—Hospital care of tuberculous veterans of the World War U S Public Health Service March 1919 to June 1922 patients in Army navy and soldiers home hospitals not included *A* contract and other institutions responsibility and control transferred to the U S Veterans Bureau June 1921 *B*, Public Health Service hospitals administration of veterans hospitals transferred to U S Veterans Bureau by executive order April 29 1922

conducted under the auspices of Col George E Bushnell, Retired, had trained a considerable number of Army medical officers some of whom continued on duty with the Public Health Service With these and a few other skilled men as a nucleus, the training of a sufficient number of medical officers was undertaken to provide proper care for patients in hospitals A summer school was conducted at Oteen, and numerous short courses in diagnosis held at various places, every tuberculosis hospital being required to give its medical personnel a prescribed course in training which during the last three years, has naturally been applied to a considerable number of medical officers stationed therein or assigned for the purpose Dr Palmer, who, together with Dr Boswell, has consented to discuss my subject, is one of the five experts who were engaged to visit our tuberculosis hospitals to assist in establishing a suitable standard of treatment and to strengthen weak points Since he visited more hospitals and visited them oftener than the others, he is perhaps better qualified than any other person to tell impartially, just as he told me in his official reports, the facts about the hospitals as he found them

It is not possible to tabulate the tuberculosis patients with respect to the stage of disease in which they were admitted, these figures not being available at the present time Many were admitted with doubtful diagnosis, claiming compensation for and giving a history of symptoms which indicated tuberculosis Some of these had been exposed to war gases or were convalescent from epidemic pneumonia In all, approximately 65,000 veterans were admitted to hospitals, including

TABLE 2—HOSPITAL ACTIVITIES OF PUBLIC HEALTH SERVICE

Veterans admitted to hospital	264 000
Hospital relief days	14 397 500
Outpatient (dispensary) treatments	2 042 700
Physical examinations	1 459 200

Note—The normal hospital operations of the Public Health Service in providing relief for merchant seamen and its other beneficiaries in the twenty five marine hospitals still remaining amounted last year (one year only) to the following

Old line patients admitted to hospital	44 756
Hospital relief days	1 191 171
Physical examination	79 750

both government and civil institutions, up to May 1 of this year It early become necessary to differentiate between patients having tuberculosis for which they required treatment and those with healed or quiescent tuberculosis which did not require hospital care Numbers of patients were discharged within a few weeks after admission, a board of properly qualified medical officers having determined that they were nontuberculous in a clinical sense

While final statistics have not been published, the general impression prevails that war gases were not an important cause of clinical tuberculosis In this

TABLE 3—LOCATION OF UNITED STATES PUBLIC HEALTH SERVICE HOSPITALS

No	Location	No	Location
2	Boston	49	Philadelphia
3	Buffalo	50	Prescott Ariz
5	Chicago	51	Tucson Ariz
6	Cleveland	52	Boise Idaho
7	Detroit	53	Dwight Ill
8	Evansville Ind	54	Arrowhead Springs Calif
9	Fort Stanton N M	55	Fort Bayard N M
10	Key West Fla	56	Baltimore
11	Louisville Ky	57	Knoxville Iowa
12	Memphis Tenn	59	Tacoma Wash
13	Mobile Ala	60	Oteen N C
14	New Orleans	61	Staten Island N Y
15	Pittsburgh	62	Augusta Ga
16	Portland Me	63	Lake City Fla
17	Port Townsend Wash	64	Camp Kearney Calif
18	St Louis	65	St Paul
19	San Francisco	66	Carville La
20	Savannah Ga	67	Kansas City Mo
21	Stapleton N Y	68	Minneapolis
22	Vineyard Haven Mass	69	Fort Thomas Ky
24	Palo Alto Calif	70	New York
25	Houston Texas	71	Sterling Junction Mass
26	Greenville S C	72	Helena Mont
27	Alexandria La	73	Chicago
29	Norfolk Va	74	Cullport Miss
30	Chicago	75	Colfax Iowa
32	Washington D C	76	Maywood Ill
34	East Norfolk Mass	77	Portland Ore
35	St Louis	78	North Little Rock Ark
36	Boston		Sheridan Wyo
37	Waukesha Wis	*	Dawson Springs Ky
38	New York	*	Walla Walla Wash
41	New Haven Conn		Excelsior Springs Mo
42	Perryville Md	*	La Animas Colo
43	Ellis Island N Y	*	(Bronx) New York
44	West Roxbury Mass	*	Norfolk Va
47	Biltmore N C	*	Rutland Mass
48	Atlanta Ga		

* The asterisk and the numbers are reproduced on the map (Fig 3)

connection the following observation made by the Surgeon General of the Army in a recent report is pertinent "In the year 1918 there were one and one-half times as many cases of tuberculosis per thousand among all troops in France as there were among those gassed and in 1919 there were more than one and three-fourths times as many tuberculosis cases per thou-

sand among all troops as there were among the gassed troops"

The mental attitude of patients is indicated in some measure by the fact that out of 9,200 patients discharged from service hospitals between July 1, 1921, and May 1, 1922, 3,132, or more than one third, left against advice and without permission, treatment not having been completed Those discharged for disciplinary reasons during the same period numbered 189 Many of these patients, presumably, sought readmission to other hospitals in accordance with the spirit of unrest which still prevails, although to a less degree than formerly, among ex-service men The frequency of departures from the hospital against medical advice has been ascribed in part by experienced hospital executives to the custom whereby the Veterans' Bureau provides transportataion home for those so departing for the first time Homesick men, at some distance from their friends, and finding sanatorium regimen irksome, are tempted to take advantage of this opportunity to return to their families Men also who have at their own expense unwisely sought climatic treatment at distant places may enter the nearest government hospital, even for the express purpose of claiming transportation home It is somewhat significant that the small temporary hospital at Tucson, Ariz, with a capacity of less than 300 beds, discharged 488 against advice between March 15, 1920, and April 23, 1922, which is more than half of its total discharges during that period This hospital is one to which, with few exceptions, no transfers are made by the government, as it is merely an emergency hospital for ex-service men found in Tucson in need of medical care

Special treatments, including induced pneumothorax, heliotherapy, both natural and artificial, occupational therapy, including physiotherapy, and vocational training as applied therapeutic exercise, were encouraged in all the tuberculosis hospitals Some of the best results in tuberculous laryngitis were obtained at hospitals in the arid Southwest with sunlight and silence Some research work related to the presence of small pneumothorax as a common but hitherto unrecognized accompaniment of active pulmonary tuberculosis was carried out at New Haven by Surgeons Barlow and Thompson, the results of which will shortly be published as a bulletin of the Hygienic Laboratory The number of cases of bone and joint tuberculosis coming under observation has been rather surprising approximately 3 per cent of tuberculous patients admitted to hospital having nonpulmonary disease Of these, approximately two thirds had involvement of the bones and joints

Remembering that approximately one third of all veteran hospital patients are the tuberculous, an idea of the operations relating to this class may be obtained from the summary of the total hospital activities of the Public Health Service during the three years since the work was undertaken, given in Table 2

The medical work which the Public Health Service was called on to perform for the Bureau of War Risk Insurance and its successor, the U S Veterans' Bureau, is now history The field organization, including the fourteen district supervisors' offices and their subagencies reaching practically into every county of the United States, was turned over in June, 1921 The control of contract hospitals was relinquished also at that time The Veterans' Bureau, having further perfected its organization, finally felt itself ready to assume the administration of the veterans' hospitals which were accordingly turned over to Director Forbes by executive order, May 29, 1922 This transfer consisted of fifty-seven hospitals, with 17,500 beds, 13,057 patients (of whom 5,271 were tuberculous), and a personnel of 11,347, including 925 physicians and dentists, 1,425 nurses, 425 reconstruction aides, and 110 dietitians I take this occasion to pay public tribute, before a body which has ever honored fidelity, to the professional men and women who, having been identified with the organization and operation of these hospitals for many months during very trying periods, were transferred from the Public Health Service to the Veterans' Bureau for continued duty of the same character Their loyalty has been instant and unvarying, their patience untiring, their zeal unflagging, and their devotion unfailing in the cause of the disabled veteran and the government, whose obligations they strive to fulfil

ABSTRACT OF DISCUSSION

DR HENRY BOSWELL Sanatorium, Miss There are a number of tuberculous soldiers in this country, for the ex-soldiers are breaking down very rapidly I should like to emphasize that in the state of Mississippi, where we examine all soldiers and civilians, we are not having any more ex-soldiers with tuberculosis than we find in the civilians, of like age group With reference to the isolation of these men and their care we should try in every possible way to establish scientific institutions for the treatment of tuberculosis and to get out of the minds of the civilian population the idea that tuberculosis can be successfully handled in tents and shacks One certainly does not get results in tents and shacks About three years ago I made a survey of the institutions of North America in order to arrive at some solution of the problem I found that like institutions well built with scientific equipment got like results no matter where located, except in the state of Maine There, perhaps, the difference was due to the long period of cold weather The only other thing I should like to mention is the constant demand by the people on the medical profession to change soldiers from one place to another I remember one case which Dr Cummings paper brought to mind, in which we had considerable trouble in getting the patient's relatives to leave him with us He had an acute miliary tuberculosis His people succeeded in getting him transferred and he died on the train somewhere in Colorado before he reached Fort Bayard

DR H A PATTISON, New York Through the courtesy of Dr Cumming and the heads of other executive departments of the government, it has been the great opportunity and privilege of the National Tuberculosis Association to cooperate with the government in developing facilities for the care and treatment of tuberculous ex-service men As supervisor of the medical service of the national association, it has been my lot to do a considerable part of the work I had the opportunity to look into every corner of many of the Public Health Service sanatoriums, and of seeing how the Public Health Service found itself when, without adequate equipment, this great problem was forced on it Without adequate legislation physical equipment or sufficient appropriations thousands of sick men were thrown on it suddenly I should like to pay sincere tribute to the executive departments in Washington and to our medical and nursing friends in the hospitals for their devoted work in carrying on under great difficulties Before the congressional committee headed by Senator Walsh, I answered the question as to the reasons for these serious difficulties by saying that I considered them due to definitive and restrictive legislation The committee agreed with me, and the country was assured that very shortly Congress would dispose of that by legislation, making it possible to meet the situation As an example of the difficulty in the cantonment hospitals, take Palo Alto, Calif The California laws do not permit of the barring or screening of any windows even in one-story frame buildings It is therefore impossible to control the neuropsychiatric patients,

who have ready access to narcotic and liquor peddlers when their compensation checks arrive On the other hand, at Boise, Idaho, where there is better supervision, we have one of the best equipped and managed hospitals of this country in charge of the Public Health Service At Greenville, with an old broken down cantonment base hospital and the buildings painted in every conceivable color there was splendid morale and splendid work being done under the most adverse conditions The President recently transferred from the Public Health Service to the Veterans' Bureau about thirty nine hospitals The Veterans' Bureau has not had the hospital experience of the Public Health Service Only time will tell whether the Veterans' Bureau will go on with the splendid work the Public Health Service has been conducting, or whether we shall have just domiciliary care rather than real treatment

DR J J SINGER St Louis Dr Cumming brought out some very important points in relation to tuberculosis surveys of the general public In one of his charts he states that the adjusting of conditions is reflected in the mortality of tuberculosis This was very evident during the war period, at which time the death rate seemed to have diminished, though in the last few years it has somewhat increased The Public Health Service has brought out to my mind at least, and answers the question of whether tuberculosis is a medical disease or whether it is a public condition, a medical problem or a social problem I have seen a large number of cases diagnosed as tuberculosis and the patients given a pension of from $30 to $80 a month Those are the patients who have been doing well Those are the patients who have not gone out to work but have stayed at home or gone to private hospitals or physicians The strain of providing for themselves has been removed If the Public Health Service has done nothing else but this, its work is worth while The second point that the Public Health Service has brought out is the training of physicians in tuberculosis diagnosis To those working in tuberculosis it is generally recognized that early recognition must be done by the general practitioner The Public Health Service has turned out innumerable men all over the country who are trained in a tuberculosis clinic, and in that way they serve the cause

DR H S CUMMING Washington D C We have been trying to educate the average physician to the work in tuberculosis by establishing a school at Oteen N C I hope that the physicians will continue to be interested in one of the greatest public health measures

THE ANESTHETIC PROPERTIES OF PURE ETHER *

RAYMOND L STEHLE MA PHD
AND
WESLEY BOURNE MD CM
MONTREAL

At least twice within the last few years it has been reported that pure ethyl ether is not an anesthetic, and that the physiologic action ordinarily attributed to this compound is due to impurities contained in the commercial material According to Cotton,[1] carbon dioxid may be the active agent in some ethers, but this investigator reported that he had obtained the best results by the use of ether containing ethylene and possibly another gas of unrecognized nature According to Wallis and Hewer,[2] ketones are the most important impurities, though they state that the anesthetic action of ether is enhanced by treating it with carbon dioxid and ethylene The lack of chemical details in the papers of Cotton and of Wallis and Hewer is unsatisfactory

* From the Laboratory of Pharmacology McGill University
*The expenses of this investigation were borne in part by the James Cooper Endowment
1 Cotton J H Canadian M A J 7 769 (Sept) 1917
2 Wallis R L M and Hewer C L Lancet 1 1173 (June 4) 1921

The foregoing statements appeared to warrant further investigation All commercial ether today is manufactured by the Williamson sulphuric acid-alcohol process The reaction is such that side reactions may occur, the products of which may contaminate the main product and therefore lend some degree of plausibility to the claims mentioned A different method of preparing ether, therefore, was adopted Instead of the sulphuric acid process, a general reaction well known to

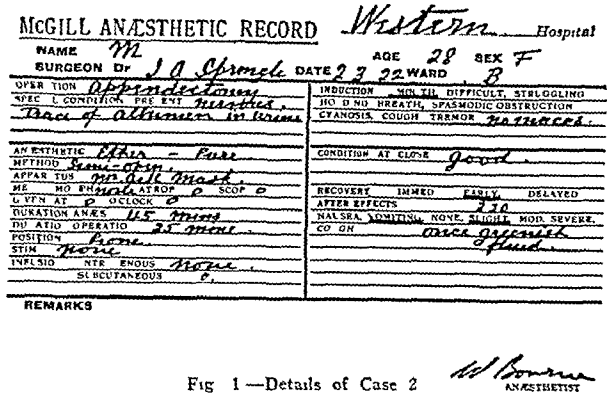
McGILL ANÆSTHETIC RECORD Western Hospital
NAME M AGE 28 SEX F
SURGEON Dr J A Ormsby DATE 2 7 22 WARD B
OPERATION Appendectomy
SPEC L CONDITION PRE EXT Negative
Trace of albumen in urine
INDUCTION MOD TIL DIFFICULT, STRUGGLING
HOLD AND BREATH, SPASMODIC OBSTRUCTION
CYANOSIS, COUGH TREMOR Retracted
ANESTHETIC Ether - Pure
METHOD Semi-open
APPARATUS Mc Gill Mask
ME HO PHINE ATROP O SCOP O
GIVEN AT O'CLOCK O
DURATION ANÆS 115 Mins
DURATION OPERATION 35 mins
POSITION Prone
STIMULATION NTR ENOUS None
SUBCUTANEOUS O
CONDITION AT CLOSE Good
RECOVERY IMMED EARLY DELAYED
AFTER EFFECTS 230
NAUSEA, VOMITING NONE, SLIGHT, MOD, SEVERE,
COUGH Once Spasm
REMARKS
W Bourne ANÆSTHETIST

Fig 1—Details of Case 2

organic chemists was employed It consisted in bringing sodium ethylate and ethyl iodid together in alcoholic solution, whereupon the following reaction occurs

$$C_2H_5ONa + C_2H_5I = C_2H_5OC_2H_5 + NaI$$

The sodium iodid precipitates and the ether is separated from the alcohol by fractional distillation The possibility of side reactions occurring is not obvious, and the product may be assumed to be quite pure *A priori* the possibility of contamination with aldehyds and ketones is practically eliminated because, in preparing the sodium ethylate, the hydrogen generated

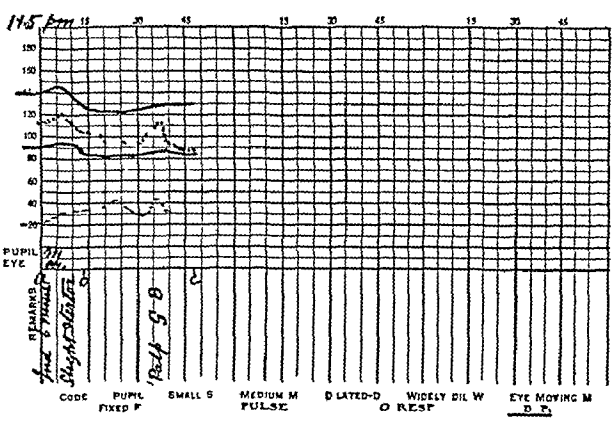

Fig 2 (back of card illustrated in Figure 1)—Curves of blood pressure heart rate and rate of respiration

when the metal was dissolved in the alcohol would have reduced any aldehyds and ketones present to alcohols In order to serve as a check, however, the ether obtained was analyzed quantitatively for ethylene while qualitative tests for aldehyds and ketones were performed

For the ethylene test, 2 c c of the ether in question was dissolved in tetrachlormethane, and 10 c c of an approximately third-normal bromin solution was added The mixture, in a stoppered bottle, was placed in the dark for eighteen hours to give opportunity for any ethylene present to absorb bromin At the end of

the reaction, the residual bromin was determined by titrating the mixture with a standard thiosulphate solution Assuming that all of the bromin not recovered was taken up by ethylene, the maximum amount which could have been present in the ether was 0 04 per cent It is likely that the amount was smaller than this, since some or all of the bromin may not have been taken up by ethylene, but may have substituted for hydrogen in the ether Schiff's test for aldehyds (restoration of red color to a fuchsin solution decolorized with sulphur dioxid) was negative, as was the nitroprussid test for acetone and for methyl ketones in general Other ketones than the methyl ketones do not give the nitroprussid reaction, but all of them are excluded because of their high boiling points (the simplest, diethyl ketone, boils at 103 C) They would have been eliminated in the fractionation process

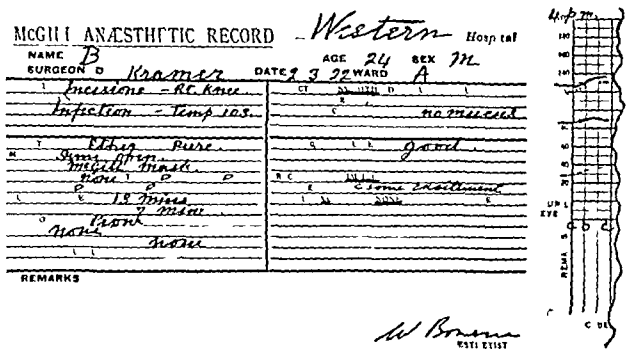

Fig 3 —Findings in Case 3

A small amount of ethyl iodid was present in the ether This was evident after exposing the product to bright sunlight for a few days, which caused it to take on a light amber color because of the liberation of iodin

Being satisfied that the ether prepared was suitable to decide the question at issue, we subjected its anesthetic properties to experiment An albino rat was the first object on which its action was tried When placed in a jar together with 1 c c of the ether, the animal became anesthetized almost immediately, and on removal from the jar recovered quite as fast as it had succumbed The remainder of the small quantity which was obtained in the preliminary trying out of the method of preparation was administered to a female

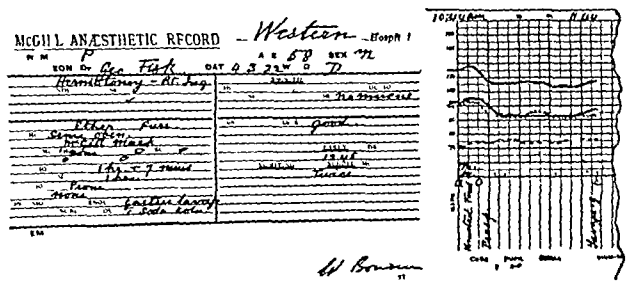

Fig 4 —Details of Case 4

patient weighing 245 pounds (111 kg) and being operated on for a large ventral hernia Induction took place in four minutes, that is, anesthesia was brought to the first stratum of the third stage This depth was maintained there ten minutes when, as we had no more of the material, a change was made to one of the commercial ethers

A larger quantity of the ether was then prepared (about 1½ pounds), and this was used in five additional cases which were chosen miscellaneously In none of them was there any preliminary alkaloidal medication, such as the administration of morphin and atropin The McGill modification of the Ferguson

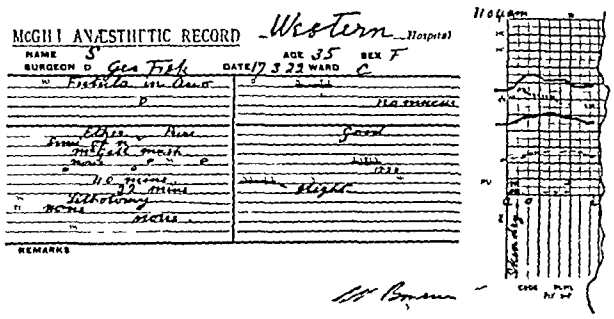

Fig 5 —Details of Case 5

mask was used All five patients expressed comfort during the induction period, which lasted from four to six minutes, and which was marked (except for a quite negligible amount of vomiting of food in Case 4 just before the start of the operation) by the absence of any signs of irritation, such as lacrimation, salivation, mucous formation, holding of the breath, coughing or struggling The whole period of anesthesia was uneventful in each instance and entirely satisfactory to the surgeon conducting the operation Recovery was immediate or early, and nausea and vomiting were minimal, even though gastric lavage was done only in the case of Patient 4 Worthy of mention is Case 6, in which good analgesia was obtained intermittently for each pain over a period of forty minutes of normal labor

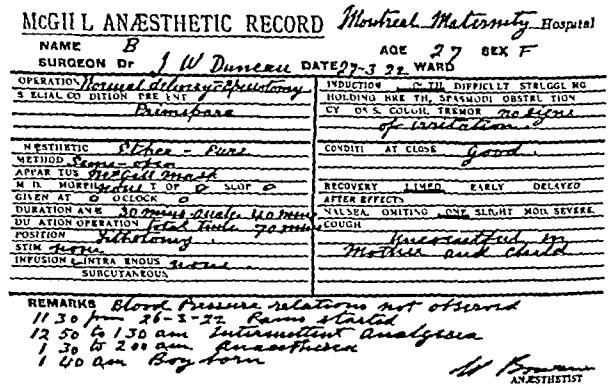

Fig 6 —Details of Case 6 The blood pressure relations were not observed

CONCLUSIONS

Pure ether, made by a clean-cut chemical reaction which excludes almost completely any contamination with substances which have been claimed to be the real anesthetic agents of ordinary ether, possesses to the highest degree the anesthetic properties which have usually been attributed to it

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Recent Literature on Cancer of the Eye—M Manheimer reviews the literature of the last ten years on malignant tumors of the eye in the *Zeitschrift fur Krebsforschung* **18** 1, 1921, a total of 586 bibliographic references with titles The tumors are classified under twenty-one headings according to the location The list contains several congenital orbital sarcomas, one bilateral

MASTOIDITIS HYPERPLASTICA SEROSA*

J. W. JERVEY, M.D.
GREENVILLE, S. C.

There exists a certain pathologic condition of the mastoid which, up to this time, has not been recognized. The mastoiditis of the textbooks and of current medical literature of the world, for thirty years past at least, is an infective process, always accompanied by pus formation and, inferentially, of some specific bacillary origin. I believe that there is another and quite distinct type of mastoid disease.

It is well known that there exists a "serous labyrinthitis", why not a "serous mastoiditis?" The existence, not rare, of a "hyperplastic sinusitis" is an accepted fact, why not a "hyperplastic mastoiditis?"

Not to go into a prolonged discussion of the latter type, for instance, hyperplastic ethmoiditis, it is enough to say that more might be known of its etiology and pathology. It may exist in association with an interstitial and intracellular serous exudate, or it may not. In the mastoid structure, the two types can and do exist simultaneously.

It has been shown that in hyperplastic sinusitis there is a definite osteoporosis (Skillern). In the type of mastoiditis that I am reporting, this condition is macroscopically evident. The pain and congestion present in either case are doubtless due both to the bone cell spread and the pressure of the serous exudate. The functional disturbances may be attributed to the same cause.

Briefly, we may be confronted with the following syndrome, in whole or in part: impairment of hearing, gradual or recent, vague pains in and about the ear, parietal headache, mild nervous unbalance, and a sense of "bubbling" deep in the ear at intervals, which is quite different from the "popping" and "crackling," so often complained of when mucus is present in the eustachian tubes.

On examination, we find some or all of the following manifestations: mastoid tenderness on deep pressure, lack of temperature changes, a varying degree of redness and thickening of a crescentic area of the posterosuperior margin of the membrana tympani, perhaps accompanied by more or less sagging of the contiguous canal wall, excessive tenderness in the roof of the external canal, occasionally, drops of serous exudate seen in the middle ear through the transparent membrana tympani, lack of evidence of previous middle ear disease, a markedly reduced sense of hearing, a negative Rinne reaction, a normal blood count, lack of evidence of existing infection, and patent eustachian tubes. The discomfort and the loss of hearing (say to the point of hearing a watch on contact) demand relief. The patient's vocation (such as stenography or teaching) may be seriously interfered with. What is to be done?

In such cases, I believe roentgenology is our safest diagnostic guide. The roentgenogram will show marked thickening and blurring, but unbroken continuity, of the mastoid cell walls, and the bony wall of the lateral sinus, with slight haziness of the whole affected area. This picture can with a little difficulty be distinguished from the cloudiness and the broken down cell walls of a purulent infection, as well as from the picture of a partially sclerotic process. Curiously enough, Law's masterwork on roentgenolcgy of the mastoids fails to note this type of pathology.

On operation, the findings are characteristic and unmistakable. The mastoid cells are filled with clear yellowish serum, the cell walls are noticeably thickened and evidence extensive osteoporosis, the antrum may be filled with the same serous exudate, smears and cultures of this exudate are microscopically negative.

It has been suggested to me that if the mastoid cells and antrum were filled with fluid, the middle ear also will necessarily be filled. This, of course, is not true. It is a simple physical fact that the mastoid and antrum, constituting a cavity closed except at its tympanic opening, would not discharge any liquid contents into the lower lying cavity until supersecretion forced the contents out, drop by drop. Hence, the phenomena observed and reported above. The drops which are forced out cause the "bubbling" hearing sensations, and these drops may be either absorbed in the middle ear as fast as deposited there, or milked out through the eustachian tube in the course of its physiologic functioning.

There is little or no reaction from operation, the wound may safely be closed, recovery is uneventful, and hearing is restored in whole or in part.

Macroscopically, the pathologic condition appears to be of a hyperplastic, serous nature, hence the title of this article. I regret that microscopic examination of the exenterated material cannot be reported. I have observed three or four cases of this character (and have one under observation, not operated on at this writing), but not until the last operation did I realize that the condition was one hitherto unrecognized, or at least undescribed in recent literature.

As to the etiology, at this time we may conveniently take refuge behind a word that may cover much territory and a multitude of sins—and say that it is cryptogenic. But we may properly theorize, briefly. I have said that the disease presents no evidence of infection. But this fact does not preclude the possibility of the deposition of long previous infection, with an exhibition of ultimate effects—the infection and its ultimata being worn to a state of unrecognizable attenuation by time and the old fashioned *vis resistentiae naturae*. I have heard earnest students of pathology make the statement that they could not conceive of hyperplastic tissue degeneration without the existence of previous infection, whether exogenous or hematogenous as related to the affected part. I must admit, too, that I have more than once seen the two types (serous hyperplastic and infective) existent at the same time in one mastoid, viz. the subcortical cells showing the serous type, and the cells immediately adjoining the antrum, and the antrum itself, filled with pus. Of course, many of you must have observed these things, but they seem to have hitherto escaped publication.

In discussing the mastoid changes following chronic middle ear infection, so great an observer and authority as Politzer[1] speaks of proliferation of cell lining membrane, eburnation of process, granular osteitis and caries, cholesteatoma, hyperostosis and osteosclerosis, but makes no mention of serous exudate, tissue hyperplasia and osteoporosis such as we have here under consideration. This fact necessarily lends weight to the tentative hypothesis that the latter conditions are not the sequelae of chronic infection while

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Politzer: Textbook of Diseases of the Ear, translated by Ballin and Heller, 1902.

evidently, and of course, they are certainly not manifestations of an acute sepsis

While one cannot deny the indubitable possibility of previous infection in these hyperplastic cases, I like to think of them as something new, something different, and I should like to suggest that, for the present at least, and until more is learned about them, they be classed etiologically as of the so-called "deficiency diseases," meaning that general class of morbid metabolistic variations produced by dietary insufficiency, perhaps by some lack of vitamin ingestion, such as has been suggested by Kauffman [2] as the possible causation of hyperplastic ethmoiditis and otosclerosis

The prognosis seems to be good The simple mastoid operation, thoroughly done, has resulted, and theoretically should result, in clearing up or at least greatly ameliorating the symptoms And, in this day and time, one would hardly say that a simple mastoid exenteration, in reasonably skilful hands, could be regarded as a very formidable procedure

Following is a brief abstract of the salient points of a case illustrating the foregoing observations

REPORT OF CASE

Miss L H, white, aged 49 stenographer, first seen Jan 9, 1922 one week before consulting me had had severe pain in the left ear and the left side of the head This had been more or less continuous There were occasional "bubbling" sounds in the ear

Disregarding some slight abnormalities in nose and throat the left membrana tympani was mildly congested, with special reference to the long handle of the malleus and Shrapnell's membrane The posterosuperior wall of the canal and the contiguous portion of the membrana were noticeably sagging There was no visible perforation There was marked tenderness on deep pressure toward the mastoid tip On the right, the patient could hear a watch at from 4 to 5 inches (10 to 12 5 cm) and Rinne's reaction was positive On the left the watch was heard on contact and Rinne's reaction negative The temperature was 97 8 F, the pulse, 88 Urinalysis revealed a trace of albumin

January 10 The blood count showed white cells, 7,600, polymorphonuclears, 64 per cent Roentgenograms revealed the right mastoid sclerotic throughout the large portion, with a large tip cell, the left mastoid showed cells external to the antrum and those in the anterior half of the tip cloudy with thickening but no breaking down of cell walls To a less extent the same conditions were noted over the sinus area, and the bony sinus wall was very much thickened throughout its mastoid course while its appearance before entering the mastoid process was thin, well marked and distinct

January 11 The pain continued in the left ear and left side of the head The sagging of the posterosuperior canal wall was marked The temperature remained normal There seemed to be little doubt that there was an inflammatory process going on in the mastoid, but it seemed doubtful that there was any pus present The hearing was badly affected and this distressed the patient

Virtually the same observations continued for the ensuing week January 18, the mastoid was opened and the following observations were recorded Cortex of average thickness, cells filled with clear serous somewhat sticky fluid, cell walls noticeably thickened and showing a marked macroscopic picture of osteoporosis The antrum was filled with the same clear viscid secretion, with no evidence of disease in the antral lining or walls, and no evidence of pus in the entire field The smears and culture from the secretion were microscopically negative for bacteria The wound was entirely closed and healed by first intention

January 21 The patient was able to hear the watch through the bandage

January 23 The healing was complete, and dressings were discontinued The congestion in the deep canal was noticeably less, and the patient was able to hear a watch at 4 inches (10 cm) She was dismissed and sent home

January 25 A card, dated January 24, was received from the patient, saying "I can hear the clock in my room ticking! Gratefully yours"

February 11 The patient felt well, said that hearing was 'ever so much better", and she was back at work She can now hear a watch at 8 inches (20 cm) The membrane and canal appeared normal

COMMENT

This case was so striking that my hitherto hebetudinous mentality began, however weakly, to function, and, in looking over my records, I found at least four other mastoids which had come to operation presenting much the same characteristics Belated inquiry then, with the assistance of the American Institute of Medicine, led me to the at least tentative finding that this was a type of mastoid disease hitherto unrecognized, or rather unreported in the literature, although evidently of considerable pathologic, and I may say economic importance

Jervey-Jordan Building

ABSTRACT OF DISCUSSION

DR J A STUCKY, Lexington Ky A young woman, aged 19, had all the symptoms described by Dr Jervey I had seen her a number of times when she was suffering this intense pain I sent her to Dr C R Holmes with a note stating that I thought this was a hysterical case He sent her back with the statement that he did not think it was hysterical, that I had better operate I did not do so for several weeks afterward In the meantime, the patient suffered severe pain There was nothing to indicate the real pathologic condition, but she had all of the symptoms described by the essayist When I opened the mastoid, I found a normal condition with the exception of serum in the bottom of the lower cells I closed the wound with blood clot and the woman was entirely relieved She made a rapid and uneventful recovery But the strangest thing about this case is what happened six months afterward She demanded an operation on the other ear I had never had a patient come to me for a second mastoid operation I had looked for every focus of infection I had eliminated toxemia and acidosis When I opened this mastoid I found the same condition of affairs as in the ear operated on previously I took a culture from the cells in which I found this exudate, and the pathologist reported it negative I have seen one other such case I do not know how to classify them but I have labeled them 'freak mastoids" I regard them as hysterical cases

DR ARNOLD B KAUFFMAN Chicago I was very much interested in the suggestion Dr Jervey made as to the possible etiology of the condition he describes During the past year, in the clinic of Drs Beck and Pollock, we studied the possible relationship of dietary deficiencies to various nasal and aural conditions (otosclerosis, hyperplastic ethmoiditis) which were particularly of more or less unknown etiology, and which pathologically showed changes not of an inflammatory nature nor directly due to bacterial invasion We called attention to the bony changes in the temporal bone in rickets The presence of osteoid tissue is well marked, the newly formed bony tissue is uncalcified and covered with osteoblasts We believe, then, that we can assume as a working hypothesis that a similar deficiency acting throughout a different period of life may not produce such a clear cut disorder as in infantile rickets, but certainly may produce bony changes elsewhere

DR NORVAL H PIERCE, Chicago I am inclined to think that Dr Jervey's case and Dr Stucky's are explained best by a peculiarity of the mucous membrane lining the cells of the mastoid, rather than by any infectious micro-

2 Kauffman A B Laryngoscope 32 50 55 (Jan) 1922

organism, or by deficiency disease, or any other thing that might be suggested These cases do occur—I have seen them myself—in which there is arrested pneumatization When we speak of arrested pneumatization, attention is focused on the bone, when, as a matter of fact, the most important factor is the mucous membrane In all of these cases of arrested pneumatization, which always dates back to the second or third year of life, there is a mucous membrane which is thicker than normal and which is covered by an abnormal kind of epithelium The thickness of the mucous membrane is due to presence of the myxomatous embryologic tissue which entirely fills up the cavum and antrum during the latter months of fetal life This arrested pneumatization may be complete or incomplete There is a dark area within a whitish area which shows the internal auditory canal in the petrous portion of the temporal base, and a rather dark line which indicates the anterior part of the sinus and between these are cells more or less complete and more or less normally arranged Normally the peripheral cells are larger than the central cells There may be more cells than this, they may run to the tip, but I think you will invariably find in these cases that there is not a completely pneumatized mastoid When we see this in the roentgenogram, we may rest assured that there is a peculiarity of the mucous membrane, and that peculiarity is that it is thicker, owing to the presence of the embryologic tissue This type of mucosa has a low degree of resistance and a peculiar reaction to bacterial infection, which produces just such cases as Dr Jervey has outlined sometimes with very great pain and yet with no destruction of bone and no expression of pus but of serous exudate They rarely require operation

DR GEORGE E SHAMBAUGH, Chicago I am trying to get clearly in mind just what Dr Jervey considered were indications for operative interference It apparently was not the fear of a defect in the hearing developing as the result of a persisting discharge through the middle ear, because there has been no evidence of secretion in the middle ear Was it the revelation of the roentgenogram? A shadow over the mastoid gives no indication that there is the sort of process going on here that requires surgical intervention Was it discomfort in the region of the mastoid that led him to operate? It is a very common thing, if we take the pains in all cases to look for it, to find distinct evidence of mastoiditis in cases of acute otitis media It is however, the unusual case of acute mastoiditis that really calls for operative intervention A shadow simply means that the pneumatic spaces of the mastoid are filled with a pathologic secretion This much we can determine by other tests for example transillumination or the presence of tenderness over the process itself may reveal the condition This is no indication for operative intervention It is only when there is a persisting discharge for a number of weeks, or when after several weeks' discharge, the roentgen ray reveals a distinct area of softening that a surgical opening of the mastoid is indicated except, of course, in those cases in which because of some complication, sinus thrombosis unusual high temperature or persisting severe pain one may be called to operate

DR LOUIS K GUGGENHEIM, St Louis I agree with Dr Shambaugh's argument against a mastoid operation unless there is an absolute indication In St Louis, when we read of the number of mastoid operations performed east of the Mississippi, we feel that we are either ultraconservative or behind the times for we perform but few mastoid operations

DR J W JERVEY Greenville S C Dr Shambaugh says he does not quite understand what I consider indications for operation I thought I had quite sufficient indications inasmuch as the patient had a very marked troublesome and partly incapacitating impairment of hearing If there was any chance for improvement of hearing, she was certainly entitled to the chance However, that alone would not have been sufficient indication for operating, but she had a marked deep tenderness in the mastoid area, particularly above the tip, she also had a constant and severe pain, which had been present for at least two weeks Something had to be done to relieve that In addition, we had the roentgenograms of the mastoid, which in her case we thought quite distinctive It certainly showed a condition we had not seen before, the characteristics being thickening of the cell walls and of the lateral sinus wall, which turned out to be an osteoporosis A leukocyte count was made and a Wassermann test, and smears and a culture were taken, all with negative results, as stated in the paper

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

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Neocinchophen-Abbott (See New and Nonofficial Remedies 1922 p 88)

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Neocinchophen Abbott Tablets 5 grains

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Benzyl Benzoate-M C W—A brand of benzyl benzoate-N N R

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Workmen's Compensation for Inoculation with Plague—The *Medicina Contemporanea* quotes in full the decision rendered recently, by the Lisbon court that deals with workmen s compensation cases, in the case of an attendant at a hospital morgue His duties included assisting at necropsies, and he died eight days after having been scratched in the finger during the necropsy of a plague victim The lesions and bacilli of plague were found in him after death and the court decreed that a compensation based on the salary the man had been getting should be paid to the widow and two children The Portuguese government granted a pension to the family of Professor Pestana under similar conditions, his death following contracting of plague from a cadaver Our exchange queries, And what about the physicians and nurses who have lost their lives from professionally acquired plague, typhus or pneumonia, during these last two years since the law on workmen's compensation has been in effect?"

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SATURDAY, JULY 29, 1922

SPIROCHETURIA

The path of invasion which micro-organisms follow in the body seems to be understood better at present than are the courses by which they are disseminated and the places of exit which they sometimes find An organism may grow locally and produce few if any other than local manifestations, again, although confined to a limited focus, it may produce a toxin that is distributed readily through the circulation so as to initiate serious remote effects In still other cases the micro-organisms invade the lymphatics or the blood stream and thus become widespread Bacteremia arises in this way Many factors are known to act against the entrance of bacteria into the body, and it appears that organisms often find it equally difficult to emerge from their hiding places The elimination of some species with the stools has long been recognized, as in the case of dysentery and cholera In other instances, such as typhoid and tuberculosis, the responsible bacilli frequently are found in the urine

The fate of the spirochetes in this respect has only lately come into especial prominence Since the discovery, in 1915, that Weil's disease is caused by a specific micro-organism, *Spirochaeta icterohaemorrhagiae*, the excretion of the spirochetes by the kidneys has been shown by successful transmission of the disease through inoculations of urine from infected animals and patients In fact, the micro-organism has since been discovered to occur in many organs and tissues during icterogenic spirochetosis Warthin [1] of the University of Michigan has demonstrated that the elimination of the organism of syphilis, *Spirochaeta pallida*, may take place under the same conditions and apparently with the same mechanism as described for the spirocheturia of infectious jaundice There is a more or less generalized spirochetosis in the body, with spirochetemia In the kidney there occurs a massing of the spirochetes about the convoluted tubules and a passage of the organisms from the vessels and interstitial tissues into the tubules, where they undergo disintegration for the greater part This destruction of the organisms in the kidneys is more marked in the case of syphilis than in infectious jaundice

According to Warthin, the elimination of spirochetes through the kidneys, with the production of associated renal lesions, appears to constitute a family characteristic for the entire group of spirochetal infections, so far as the known types of the organisms have been studied carefully In infectious jaundice, the spirocheturia is a factor of considerable diagnostic value The Michigan observations are not the first to be made in regard to the spirocheturia of syphilis, but they are probably the most convincing demonstrations of the excretion of *Spirochaeta pallida* through the kidneys in man Warthin has pointed out that syphilitic spirocheturia occurs in the stage of septicemic syphilis, in both the congenital and the acquired infections *Spirochaeta pallida*, as is *Spirochaeta icterohaemorrhagiae*, may be excreted in enormous numbers through the convoluted tubules During such excretion through the kidneys, Warthin concludes, the spirochete of syphilis suffers greater destruction than does the icterogenic parasite, so that fewer spirochetes may reach the urine in syphilis than in infectious jaundice The demonstration of the occurrence of syphilitic spirocheturia, therefore, is not likely to possess such diagnostic value as that of icterogenic spirocheturia

1 Warthin A S The Excretion of Spirochaeta Pallida Through the Kidneys J Infect Dis **30** 569 (June) 1922

THE IMMUNIZATION OF NURSES TO DIPHTHERIA

In the case of diphtheria, the efficacy of modern medicine has been put on trial, so to speak, to a degree perhaps not emphasized equally with respect to any other disease regarding which great advances in our knowledge have been recorded The bacteria and other elements in the causation of diphtheria have become familiar to both physician and layman The recognition of the nature of the immunity conferred by an attack from the malady remains among the great discoveries of scientific investigation The production of immune serums and their gradual refinement are triumphs of the laboratory that have not only challenged admiration but also conferred untold benefits on mankind by curing diphtheria beyond the hopes of an earlier generation Then came the unexpected finding of the menace of the widely distributed carriers, themselves immune, yet omnipresent dangers to the environment in which they tarry Finally—for the moment—we may record the application of the Schick or analogous tests to determine the existence of susceptibility or immunity in the individual coupled with the attempts at immunization by the use of diphtheria toxin-antitoxin mixtures

To those who have lived through this history of the investigation of the cause and management of diph-

theria, it seems like a long story in which discouragement has always been succeeded by discoveries of great promise Despite the lowered mortality due directly to the administration of antitoxin, there is still a large incidence of diphtheria to which the intolerant and the pessimist continue to point with ill concealed satisfaction in their challenge of the advantages of modern science In the larger cities, diphtheria remains endemic, and each year there still is a large morbidity It has become obvious to students of preventive medicine, therefore, that the next step forward must be in the direction of securing a greater immunity among our population Since the percentage of positive Schick tests usually given for adults is considerably lower than that found in children, attention has been focused primarily on the latter

The results of attempts at immunization of children, conducted on a sufficiently large scale to afford convincing statistics and controlled by repeated tests of the degree of success secured, have been decidedly encouraging [1] Among those persons most intimately exposed to diphtheritic infection are physicians and nurses It is gratifying to learn that for them, too, there is promise of successful active immunization following the practice of systematic administration of toxin-antitoxin mixtures to those who react to the Schick test Cooke [2] has reported the outcome of such a program for the susceptible training school nurses on duty in the Contagious Pavilion of the St Louis Children's Hospital, a group of young women showing an unusually high incidence of susceptibility There were 58 per cent of nonimmunes More than 80 per cent were immunized by the injections, the Schick test remaining persistently positive after two series of toxin-antitoxin injections in only a small number of the women

During the three years preceding the immunization, twenty nurses, or 28 per cent of those on duty in this contagious pavilion, developed diphtheria In the four years' period after the immunization was instituted, there was a decrease in the incidence of clinical diphtheria among these nurses of at least 90 per cent This is a triumph of preventive medicine If it is thus easy to protect an entire nursing staff from contracting diphtheria, by the use of the Schick test and toxin-antitoxin injections, one must agree with Cooke that this procedure should be carried out in all institutions caring for children

1 Carey B W Diphtheria Control, J A M A **77** 688 (Aug 27) 1921 Mulsow F W Schick Test and Active Immunization with Diphtheria Toxin Antitoxin ibid **77** 1254 (Oct 15) 1921 Fleischner E C and Shaw E B The Management of a Diphtheria Outbreak in a Private School ibid **77** 1714 (Nov 26) 1921 Bashore H B Fighting Diphtheria in the Country ibid **78** 188 (Jan 21) 1922 Cumming J G Is the Control of Diphtheria Leading to Eradication? ibid **78** 630 (March 4) 1922 Meyer, Jacob Active Immunization with Diphtheria Toxin Antitoxin ibid **78** 716 (March 11) 1922 Zingher Abraham Results of Active Immunization with Diphtheria Toxin Antitoxin in the Public Schools of New York City ibid **78** 1945 (June 24) 1922 Diphtheria Preventive Work in the Schools of New York City Arch Pediat **38** 336 (June) 1921

2 Cooke J V Active Immunization of Nurses Against Diphtheria in a Children's Hospital Am J Dis Child **23** 496 (June) 1922

VITAMIN THEORIES

The essential experimental facts about the functions of the best known vitamins have become sufficiently familiar to justify the belief that these newly recognized food factors furnish something of importance in a human diet Holt [1] recently summarized the service which the newer knowledge has rendered by pointing out how it has helped to place the whole subject of nutrition on a better scientific basis The experimental has been substituted for the empiric method in determining the value of the different foods Formerly we might know that certain foods were desirable and necessary, now we are often able to say why such is the case and to determine their precise value in nutrition

The study of vitamins has helped to make clearer why a variety of foods is so essential to well being, and how danger may follow when diet becomes restricted from either necessity or caprice Decrying the indiscriminate use of alleged vitamin-bearing preparations as popular therapeutic agents, Holt further utters the warning that until they have been confirmed by adequate clinical experience there is some danger in relying too much on the results of laboratory observations on animals of a different species whose physiologic needs may be different from those of human beings In a somewhat similar strain, Mitchell [2] has asserted that in the total lack of quantitative data on the vitamin requirement of man, and in the general absence of malnutrition or disease among people in this country which can with any degree of probability be diagnosed as involving vitamin deficiencies, it seems premature to formulate recommendations for the balancing of diets with respect to vitamins It is pointed out that the classic experiments are conducted in each instance on species peculiarly susceptible to the particular deficiency under investigation However, this sort of criticism is a conventional one in medicine While admitting the background of truth in it, we must recall that the clues furnished by animal experimentation have led to so many helpful avenues of information that it would be scientific folly to fail to heed them, even in our as yet inadequate understanding of the possible bearing of vitamins on human welfare There is no necessary conflict between an open mind and conservatism in scientific judgment Hence we are glad to reiterate the warning of Mitchell, when he writes

> At a time when popular periodicals are widely publishing irresponsible articles on vitamins ignorantly or deliberately creating an entirely distorted popular conception of them, and when commercial concerns are widely advertising purely hypothetical advantages of vitamin preparations, it is particularly important that investigators in nutrition exert great care in the wording of statements as to the practical significance of vitamins in every day life Otherwise they may become unwilling accomplices in the perpetration of a gigantic fraud upon the American public

1 Holt L E The Practical Application of the Results of Vitamin Studies J A M A **79** 129 (July 8) 1922

2 Mitchell H H The Necessity of Balancing Dietaries with Respect to Vitamines Science **56** 34 (July 14) 1922

It is in harmony with such conservatism of statement, we believe, that the recent report of the Council on Pharmacy and Chemistry of the American Medical Association on yeast preparations has been formulated.[3]

With so much uncertainty still admitted, it might seem futile to discuss at this time the theories of the mode of action of vitamins. However, the history of science attests that its development has more often been promoted rather than retarded by the leavening influence of hypotheses. Most investigators of the vitamins have looked on them as functioning somewhat as hormones are supposed to act in the organism, namely, as stimulants to certain physiologic mechanisms. Others have imagined the newly discovered factors to be essential components of some, at least, of the living tissues, thus they would be quite as indispensable as are other structural units of the body, such as certain amino-acid groups, calcium, phosphorus or iron. A further group of students has assumed the vitamins to be primarily catalytic in function, thus behaving like the well known enzymes. Hess[4] of Zurich has lately offered somewhat indirect evidence that the antineuritic vitamin, which relieves the symptoms of polyneuritis in animals fed on diets devoid of vitamin B, contributes in some way to the production of oxidative enzymes in the body. Studies in vitro on the tissues of polyneuritic pigeons indicated to him a decrease in the oxidative enzymes usually found in well nourished animals. On this hypothesis the avitaminosis is an expression of poverty of the cells in the factors that facilitate tissue respiration. This is one of the many guesses which the future will need to evaluate in the physiology of vitamins.

THE FUNCTION OF BILE

The secretion and function of bile have long been a disturbing puzzle alike to physiologists and to clinicians, and in spite of many recent additions to our knowledge, there are still many unsolved problems. A critical review by Whipple[5] serves to indicate what has been determined and what is still to be learned concerning this important subject. Perhaps the most striking conclusion is that the entrance of at least a certain amount of bile into the intestine is necessary to life. We see patients survive so long with completely occluded bile tracts that the vital necessity of the bile has often been doubted, and physiologists have supported this doubt by observing that experimental animals seem to do very well when the bile is prevented from entering the bowel. Diet seems to be an important factor in this. For example, a fistula dog will usually die within two months with acute intestinal disturbance if kept on an ordinary diet of kitchen scraps. A diet of milk, cooked potatoes, rice and bread will prolong life considerably, and such dogs may live in good condition for from four to ten months and die with advanced bony abnormalities, osteoporosis resulting from the protracted loss of inorganic salts through the fistula. Abnormal pigment disturbances and true purpura with fatal hemorrhage may develop in such dogs. Addition of cooked liver to the foregoing diet will usually improve the condition and prolong the period of health in these fistula dogs, but they are likely to suffer at times from some of the conditions noted above. Bile fistula dogs with tiny fistulous tracts connecting with the duodenum may live for long periods in perfect health and function. The amount of bile gaining entrance to the duodenum is very small, and can scarcely exceed 10 or 20 per cent of the total flow which escapes through the external fistula. This shows how little bile may serve to change the entire clinical picture from abnormal to normal. The same amount of bile by mouth will not have any similar effect. Therefore it seems safe to conclude that secretion of bile into the intestine is necessary for normal health and even for actual continuation of life beyond a few months' period.

The use of cholagogues in medicine receives little support from experimental studies, for as far as can be learned the chief if not the only real cholagogue is whole bile or its active principle—that is, the bile acid fraction. The mere fact that drugs are claimed to be cholagogues by some and denied by others will indicate to the student of bile physiology that the cholagogue action is at least insignificant if not absent. Bile salts by mouth or intravenously will cause a distinct rise in the volume of bile secreted by a temporary or permanent fistula. Likewise, a meat diet favors an abundant flow of bile in a bile fistula dog, but a diet rich in carbohydrates, especially sugar, will decrease the bile flow under similar conditions. This shows the importance of diet as influencing the bile flow. None of the so-called cholagogues can be shown to produce the uniform and definite increase in bile flow that is given by bile feeding, and if they have any influence it is less than that produced by a meat diet.

We recently discussed the interesting studies of Rous and McMaster,[6] which demonstrated the remarkable power the gallbladder has to concentrate bile, reducing its volume as much as 90 per cent in twenty-four hours. This supports the old idea that the gallbladder serves as a reservoir of concentrated bile, to be poured out when needed, and clinical procedures have been devised on the theory that certain stimuli cause the gallbladder to contract and expel its contents into the duodenum, where it may be collected for analysis. But it is difficult to accept this view in the face of experiments

3 Yeast Preparations. New and Nonofficial Remedies. J A M A **79** 135 (July 8) 1922.

4 Hess, W. R. Die Rolle der Vitamine im Zellchemismus. Ztschr. f. physiol. Chem. **107** 284 (Dec. 21) 1921.

5 Whipple, G. H. Origin and Significance of Constituents of Bile. Physiol. Rev. **2** 440 (July) 1922.

6 The Purpose of the Gallbladder, editorial. J A M A **78** 584 (Feb. 25) 1922.

which show that dyes introduced into the gallbladder remain there as long as three days, and that the bile that enters the stimulated duodenum does not come from the gallbladder

Until recently it was generally believed that the bile pigments are all formed in the liver, and only in the liver, hence the dictum of "no jaundice without liver involvement" We now know that there do exist forms of hemolytic icterus with which the liver is not concerned and apparently the power to change hemoglobin into bile pigment is widely exhibited throughout the body Probably this is a general property of vascular and serous endothelium, and Whipple suggests that perhaps the particular activity of the liver in this process depends on its abundant supply of active endothelial tissue in the form of the Kupffer cells Certainly the liver is ordinarily the chief place in which bile pigments are formed, for injury to the liver depresses bile pigment excretion There is, in any event, no evidence that the bile pigments serve any useful purpose, and hence they may be regarded entirely as excreted waste products Nor has any value been ascribed to the cholesterol excreted in the bile, unless we look on the formation of gallstones as a useful function

Current Comment

ARTIFICIAL PNEUMOTHORAX TWO THOUSAND YEARS AGO

A knowledge of medical history is a most distressing thing, for it discloses persistently that this or the other new discovery is only a rediscovery We must take our consolation in the fact that generally the first steps were but halting ones, not being backed by sufficient force of actual knowledge to permit them to reach their goal, and hence our newer progress on a more substantial basis is, after all, the only worth while advance Krause[1] calls attention to the fact that Hippocrates described beyond a doubt the treatment of pulmonary disease, probably empyema, by the production of artificial pneumothorax, in these words "If this affection results from a wound or, as sometimes happens, from an incision for empyema, one should attach a pipe to a bladder, fill the bladder with air, and send the air into the interior of the chest And one should insert a solid pewter sound and push it forward It is by this method that you will get the very best results" While we are accustomed to date the inception of the idea of artificial pneumothorax from Forlanini's first work of forty years ago, it seems that it was well recognized more than a hundred years ago by that English medical genius, Thomas Young, whose book on consumptive diseases, published in 1815, set Krause on the track of the original statement of Hippocrates Young himself, however, seems not to have considered the idea one of much practical importance, for he says that "however extraordinary the practice appears, it is not impossible that it might be beneficial where the adhesion was not such as to prevent the collapse of the lungs, allowing the wounded parts to reunite more readily than in the natural process of respiration, since they would be more intimately in contact with each other, though not more at rest" By the last phrase of this statement Young indicates that he did not grasp the real underlying principle of the effect of pneumothorax The words of Hippocrates fail to indicate whether or not the ancient physicians had any understanding as to why pneumothorax was beneficial, but apparently they did recognize it as a useful procedure in some conditions

1 Krause A K Am Rev Tuberc 6 327 (June) 1922

THE FATE OF UNCOOKED STARCHES IN THE ALIMENTARY TRACT

Much of the food fuel of man consists of starch, the chief component of the cereals In its natural state the carbohydrate starch occurs in the form of "grains"—unique microscopic packages including more or less cellulose-like material The presence of the indigestible cellulose is commonly charged with interfering with the ready digestion of the starch itself by the alimentary secretions possessing amylolytic enzymes Hence current teaching has supplemented far-reaching empiric experience in dictating such manipulation of starchy foods prior to their being eaten as will decrease the interference of the adherent constituents with ready digestion of the starch Comminution and cooking are the customary processes employed The harder and tougher foods, such as wheat, corn and oats, are first ground fine or milled, while others, such as roots and tubers, are heated with water to "rupture" the starch grains Suitably cooked starchy foods are among the most readily digested components of the human dietary It came as a surprise to physiologists, however, to learn a few months ago from government laboratories[1] that raw wheat-starch and corn-starch, eaten in quantity by man, can be completely assimilated without any physiologic disturbance and without the detection of unutilized starch grains in the feces An extension of these studies of Langworthy and Deuel[2] in the U S Department of Agriculture has now further demonstrated on healthy men that certain raw starches, including corn, wheat, cassava, rice and taro root, were completely digested when eaten in amounts sometimes as large as 250 gm a day Raw tree-fern and true arrowroot (*Maranta arundinacea*) starches were nearly completely digested, but some starch was present in the feces Raw commercial arrowroot (*Canna floridana*) and potato starches showed considerably less complete digestion, large quantities being present in the feces Raw canna starch was even less digestible, its coefficient being only about 50 per cent In these experiments there seems to be a direct relationship between the size of the starch granule and its digestibility Whether or not this relationship is accidental has not been determined One

1 Langworthy C F and Deuel H J Jr Digestibility of Raw Corn Potato and Wheat Starches J Biol Chem 42 27 (May) 1920

2 Langworthy, C F and Deuel H J Jr Digestibility of Raw Rice Arrowroot Canna Cassava Taro Tree Fern and Potato Starches J Biol Chem 52 251 (May) 1922

might readily suppose, the government investigators add, that the larger starch granule contained a thicker cellulose covering, and consequently one more impervious to the digestive ferments than the smaller granule The factor of surface area might also come into consideration, since, the larger the granule, the proportionately smaller surface area for being attacked Clinical experience bears out the relatively poor digestion of uncooked or poorly cooked potatoes The experimental findings regarding the utilization of raw starch from the alimentary tract of man need not be construed as advice to avoid cooking, but rather should be interpreted as evidence of one of the many factors of safety possessed by the human organism

BASAL METABOLISM IN DISEASE

The expressions "basal metabolism" and "metabolic rate' have come into considerable prominence in medicine within the last few years, during which clinical calorimetry has risen to a position of undeniable dignity The symposium on the subject that was reported in THE JOURNAL about a year ago indicated not only the importance of the newer knowledge in this field but also the limitations of its exploitation, the difficulties of technic, and the dangers of improper experimentation Many factors may alter the metabolism of man Food and muscular activity are, perhaps, foremost in increasing the exchange of materials and the output of heat, but the basal metabolism refers to the behavior of the organism in its energy transformation without food and at rest Fever increases the basal metabolism, the rise in temperature being accompanied by an increased heat production corresponding in amount to the degree of fever[1] Such cases are usually attended with a so-called toxic destruction of protein in the body Diseases such as arthritis, though generally regarded as infectious in origin, are believed by some clinicians to be due to disturbed metabolism Observations by Cecil, Barr and Du Bois[2] in cases of arthritis deformans give no support to the latter view The metabolic rate has been found to be normal, and, if arthritis is infectious in origin, the infection cannot be accompanied by increase in basal metabolism or by toxic destruction of body protein The classic instance of the helpful demonstrations of variations in basal metabolism concern disturbances in thyroid function, the high and low rates in hyperthyroidism and hypothyroidism, respectively, being well appreciated[3] With respect to the other glands of internal secretion, however, it must still be said that the variations in basal metabolic rate for which they are responsible cannot yet be foretold It is important at this time to realize and transmit this conclusion, which is clearly indicated in a recent review of the subject by Aub and Taylor[4] The pertinent literature is enormous, but for those who are not sufficiently expert to sift fact from fiction and truth from pseudoscience, the best rule is to maintain an attitude of intelligent skepticism when small variations of basal metabolism are heralded as indicative of large clinical values

1 Barr D P Cecil R L and Du Bois E F Clinical Calorimetry XXXII Temperature Regulation After the Intravenous Injection of Proteose and Typhoid Vaccine Arch Int Med **29** 608 (May) 1922

2 Cecil R L Barr D P and Du Bois E F Clinical Calorimetry XXXI Observations on the Metabolism of Arthritis Arch Int Med **29** 583 (May) 1922

3 Boothby W M The Basal Metabolic Rate in Hyperthyroidism J A M A **77** 252 (July 23) 1921 Janney N W and Henderson H E Concerning the Diagnosis and Treatment of Hypothyroidism Arch Int Med **26** 297 (Sept) 1920 Janney N W Diagnosis of Hypothyroidism California State J Med **19** 313 1921

4 Aub J C and Taylor Martha The Effect of Body Tissues Other Than the Thyroid upon the Basal Metabolic Rate Endocrinology **6** 255 (March) 1922

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC)

ALABAMA

Hospital Closed—The Red Mountain Sanatorium, Birmingham, established by the Antituberculosis Association of Jefferson County twelve years ago, was closed in July The work will be partly carried on by county appropriation, while the association directs its activities to instruction and preventive work among schoolchildren The sanatorium has cost the association about $18,000 a year, and it is expected that a suitable structure will be erected at the county farm for tuberculosis patients, for which the county would have to appropriate no more than it has already for the antituberculosis association

CALIFORNIA

New Associate Secretary—Following out the policies endorsed by the Council of the Medical Society of the State of California the publicity bureau has appointed Dr Howard H Johnson full-time associate secretary of the state society

Hospital Convention—The second annual convention of the hospitals of California will be held under the auspices of the League for the Conservation of Public Health September 5-8 in Pasadena The council of the state medical society will hold two meetings September 9, the council will meet with the presidents and secretaries of all the county medical societies Dr Charles Lockwood 295 Markham Place, Pasadena, is chairman of the committee of arrangements

Fake Healer Found Guilty—It is reported that "Dr" W H Jones was found guilty on a charge of practicing medicine without a license in Oakland, July 7 He was placed on probation for six months with the provision that he pay $110 to Mrs Burbank, the plaintiff Johns guaranteed to cure an injured knee for $200, of which $100 had been paid by Mrs Burbank He also discovered that her little boy was the victim of some disease which he agreed to cure for $100 Ten dollars was paid him on account

CANAL ZONE

The Gorgas Memorial—Dr R P Strong, who has just returned from his fourth trip to Panama, has announced that it has been decided to establish first divisions of bacteriology, pathology protozoology, helminthology biochemistry, entomology plant pathology and animal diseases, in the new Gorgas Memorial Institute of Tropical and Preventive Medicine, at Panama These departments will be organized with laboratories for research work, particularly in connection with the study of the mode of spread of the most important infectious diseases of man and animals. There will be close cooperation between the institute and the Ancon Hospital and Leprosarium In addition to the foregoing subjects, tropical botany and the biologic effect of sunlight will also receive attention Provision will be made for the instruction of a limited number of students, the courses of instruction to be designed especially for those who have had laboratory training before A limited number of research workers will also be received Dr Strong states that since the president of a small South American republic, already overtaxed, had donated a memorial to an American it was the duty of all American citizens, not only American physicians to provide a suitable endowment fund with which to carry on the work of the institute

COLORADO

Personal—Dr Richard W Corwin has returned to Pueblo after completing a tour around the world, which he undertook in September, 1921 Dr Corwin's trip embraced Italy, Egypt, India China, Japan Korea, Australia and Honolulu ——Dr Philip Work, neurologist at the Woodcroft Hospital, Pueblo, has resigned from that position and will limit his practice to nervous and mental diseases

New Medical Society—The organization meeting of the Arkansas Valley Medical Society was held in La Junta, July 11 The following officers were elected for the ensuing year president, Dr Ralph Johnson La Junta, vice president, Dr M Holmes Cannon City, and secretary treasurer, Dr Harold T Low, Pueblo The association will hold a week end meeting about September 1, in the mountains

DISTRICT OF COLUMBIA

Medical Faculty of Georgetown University—Changes in the medical faculty of the Georgetown University, Washington, have been announced by President John B Creedon Major Joseph P Madigan, who has resigned from the Army is to take the chair of anatomy Dr Thomas E Neill and Dr Murray Russell have been appointed associate clinical professors of surgery and Dr Harry A Ong has been named as associate clinical professor of medicine

FLORIDA

State Medical Meeting—At the forty ninth annual meeting of the Florida Medical Association held in Havana, Cuba, June 27-28, under the presidency of Dr S R M Kennedy, Pensacola, the following officers were elected for the ensuing year president, Dr Leonidas M Anderson Lake City, vice presidents, Drs Herman Marshall Taylor, Jacksonville, Joseph L Kirby-Smith, Jacksonville, and Leland F Carleton, Tampa, and secretary, Dr Graham E Henson, Jacksonville

Health Conference—A conference was held in Orlando, July 5 6, of state, health and sanitary authorities for the purpose of standardizing and rendering uniform state laws governing health and sanitation throughout the state Dr Raymond C Turck, Jacksonville, state health officer, Dr Jesse R Harris, Tampa, head of the department of health, Dr Arms Jacksonville, city physician, W E A Wyman, St Petersburg, pure food inspector, and Dr Alvin J Wood, city physician of St Petersburg, were among the many that attended the conference

GEORGIA

Prison Sentence for Physician—It is reported that Judge Grubb recently sentenced Dr H E Pontius, Atlanta, to eighteen months in the federal penitentiary at Atlanta, for violation of the Harrison Narcotic Law

ILLINOIS

Personal—Prof William C Rose, Ph D who has held the chair of biochemistry in the University of Texas Department of Medicine, Galveston since 1913 has resigned to become head of the department of chemistry of the University of Illinois, Urbana

Illegal Practitioner Fined—It is reported that Theodore Dilinsky, aged 71 of Houston Avenue South Chicago, was fined $50 and costs by Judge Joseph W Schulman recently, for practicing medicine without a license Dilinsky attended a 3 year old child who had been overcome by gas The child died

Physicians Fined—It is reported that Drs William R Wesenberg and J F Hargan, both of Mound City recently paid $10 each and costs for failure to report births The complaints against the physicians were filed by the local state s attorney at the request of a special agent from the state department of public health

New Bulletin on Medical Service in Schools—The state department of public health announces the completion of a new bulletin setting forth detailed instructions in reference to the medical inspection of schoolchildren The function of the school physician, the place and work of the school nurse and the part that should be played by the teacher, as viewed by the department, are all described It is felt that the bulletin will be especially helpful to public health officers, school nurses and teachers Copies may be had after August 15 by persons or organizations in Illinois without cost

Pasteurization Campaigns—The state department of public health has recently put in motion a campaign in favor of milk pasteurization A model ordinance has been drawn up and the twenty odd district health superintendents have been instructed to take advantage of every opportunity and to use every effort at their disposal in securing the adoption of the ordinance by the various communities in their several districts Two recent and rather serious outbreaks of typhoid fever which were traced to the use of raw milk have added impetus to the campaign in certain sections Nearly a score of the larger cities have the proposition of adopting the ordinance now up for consideration, while half a dozen have already adopted and are now enforcing it

Hospital News—The Sisters of St Francis of Peoria have recently purchased the Holmes Hospital, Macomb, for $65,000 The institution will be consolidated with the present St Francis Hospital——The contract has been awarded for an addition to St John's Hospital, Springfield, at a cost of $15 000——Bids will be taken to August 15, on the $300,000 tuberculosis hospital building to be erected at Edwardsville by the county commissioners——The new $75,000 addition to St Francis Hospital Litchfield, has just been completed, and another building will be erected for a power plant and employees quarters at a cost of $35,000——The John Marshall Browning Hospital, recently completed at DuQuoin was dedicated July 20 Dr Clarence W East, chief of the division of child hygiene and public health nursing of the state department of public health, delivered the principal address

Chicago

Personal—Dr William A Evans, medical editor of the Chicago *Tribune* delivered an address before the Canadian and Ontario dental associations at the University of Toronto, Canada recently——The king of Denmark has conferred a knighthood on Dr Peter Clemensen, Chicago, former member of the board of education

Czechoslovak Hospital—At a recent meeting of American citizens of Czechoslovak descent in Chicago, plans were made for the erection of a Czechoslovak Hospital For this purpose $30 000 has already been subscribed and a considerably larger sum pledged The purpose of this institution is to provide physicians and nurses who speak their own language for the Czechoslovakians resident in and around Chicago

INDIANA

Health Board Secretary Resigns—Dr John N Hurty, Indianapolis, for more than twenty six years secretary of the state board of health, presented his resignation, July 19, to take effect September 30 Dr Hurty is Republican nominee in Marion County for the legislature His successor has not yet been named

IOWA

Personal—Dr Marcus P Neal, assistant professor of pathology and bacteriology at the State University of Iowa College of Medicine Iowa City, has accepted a position as professor of pathology and bacteriology at the University of Missouri School of Medicine, Columbia——Dr Edgar M Medlar head of the department of pathology at the University of Iowa, has left for Mount McGregor, N Y, where he will do research work——Dr John Shuman, Sioux City, has accepted a position as professor of internal medicine at the American University, Beirut, Assyria, to succeed Dr Harry Graham recently deceased Dr Shuman will leave for his post abroad about the end of August——Dr John H Stalford, Sac City was recently reelected president of the Wall Lake District Medical Society

KENTUCKY

Summer School—A health conference, with the slogan Live a little longer' was the feature of the summer school sessions at the University of Kentucky, Lexington July 10-15 Dr Percy K Holmes, head of the department of hygiene and public health of the university, presided Among the speakers were Dr Edith Hale Swift of the American Hygiene Association, New York, Dr Annie Welch, director of the Bureau of Child Hygiene Louisville, and Dr John McMullen, U S Public Health Service

LOUISIANA

Public Health News—It has been officially announced by the U S Public Health Service that plague eradication work will be discontinued in New Orleans For nearly a year not one single trace of rat infection has been discovered by the federal health workers under the direction of Dr Marion S

Lombard, and New Orleans has been given a clean bill of health as far as plague is concerned

Campaign Against Ants—The New Orleans Board of Health has given official approval to an extensive campaign against ants in the city, following individual requests from hundreds of residents Surveys of the result of the campaign against the ant last year show that the extermination work was 95 per cent effective The cost of ridding the entire city of ants would be approximately $40,000, making an average of $12 for each block The U S government entomologist will have charge of the campaign Organization must be perfected and the funds which make extermination work possible must be in hand by August 15

Hospital News—The Eye, Ear, Nose and Throat Hospital, New Orleans, will move into a new building at Tulane Avenue When the new four-story fireproof building is completed, the accommodations will represent an outlay of $500,000 Bequests and gifts from various people have made this possible $100 000 being donated by Isaac Delgado, $20,000 by A C Hutchinson, $6,000 by Thomy Lafon, the negro philanthropist, and $50,000 by Mrs John Dibert Dr Henry Dickson Burns is surgeon-in-chief He succeeded the late Dr DeRoaldes, founder of the institution——A site has recently been purchased in New Orleans by Mrs Thomas of New York for a home for worthy old people and convalescent mothers This institution will be known as the Holmes-Thomas Home and Mrs Thomas has set aside a trust fund of about $800 000 for the erection and endowment of the home The donor requests that not more than one third of the principal be expended for the construction of the institution Dr Rudolph Matas and Dr A B Dinwiddie, president of Tulane University, have been requested to act on the board of directors of the home fund corporation——A twin building joined by another structure to the first quarters of the St Rita Surgical Infirmary, New Orleans is being erected to double the capacity of the institution Two operating rooms, more than fifty beds and many other improvements will ultimately be incorporated in the hospital

MARYLAND

Personal—Dr George W Corner, associate professor of anatomy at Johns Hopkins University Medical School, Baltimore has been appointed head of the department of anatomy in the new school of medicine and dentistry now being organized at the University of Rochester, N Y

Hospital News—Work has been started on the $200 000 hospital building and kitchen of the Maryland State Sanatorium Henrytown——Working drawings for the municipal hospital for infectious diseases to be erected at Montebello, Baltimore have been signed by Dr C Hampson Jones, commissioner of health Baltimore

Test of Birth Records in Maryland—Birth registration of children born in Maryland is to be subjected to a complete test under a plan worked out by Dr John S Fulton, secretary of the state department of health, in cooperation with the Maryland League of Women Voters Under the plan, 1 000 mothers, members of the league, will request from the state department of health certificates of the registration of the births of their children under 5 years of age There is a law in the state requiring a report to the state department of health of the birth of every child but it is believed the figures are far from being complete All of the work is being done to prepare for the opening of the child hygiene bureau, of which Dr J H Mason Knox has been recently appointed chief When it is ascertained where the health department stands in this matter, steps will be taken to put the bureau in shape to compute the death rate of children in Maryland and to take immediate steps to lower it

MASSACHUSETTS

Floating Hospital—The Boston Floating Hospital started from the North Pier, June 28 on its twenty-ninth annual health voyage for children The ship leaves daily, returning in the evening, and anchors for the night It has accommodations for about 115 permanent patients, and from eighty to 100 day patients The staff is composed of seventy nurses and sixteen physicians, under the direction of Dr Henry I Bowditch

Public Health Lectures—The Committee on Public Health of the Massachusetts Medical Society has been able, during the last three years, to arrange with well known specialists to give talks at meetings of the district medical societies in Massachusetts A similar arrangement has been made this year and the following physicians will speak without charge before the societies, for thirty or forty minutes, on subjects relating to the promotion of public health Drs Jose Penteado Bill, Frank C Dunbar, Walter E Fernald, Timothy Leary, Edwin H Place, C Morton Smith, George Gilbert Smith, Lesley H Spooner, William C Woodward and Thomas F Kenney George H Wright D M D, lecturer on hygiene at Harvard Dental School, will give lectures on dental surgery

MICHIGAN

Hospital News—A new hospital will be constructed at Traverse City to take the place of the old General Hospital, as authorized by the state administrative board Construction work will be started this month on the new modern building The institution will have a capacity of fifty beds and well equipped maternity surgical and medical wards It will be under the direction of Dr J D Munson who is now superintendent of the Traverse City State Hospital——The Westerlin Hospital Iron Mountain, has been purchased by the Franciscan Sisters of Charity, it was recently announced——The new St Lawrence Hospital Lansing will be erected in the near future at a cost of $350,000 The Sisters of Mercy will donate $150 000 toward the building

MONTANA

State Medical Meeting—At the annual meeting of the Medical Association of Montana, held at Great Falls, July 12 13 under the presidency of Dr W W Andrus, Miles City, the following officers were elected for the ensuing year president Dr Harmon T Rhoads Choteau, vice presidents, Drs P A Dolan Helena, James B Reynolds Great Falls, and Lawrence R Packard Whitehall, and secretary-treasurer, Elmer G Balsam Billings (reelected)

Personal—Dr Howard L Botts Billings, county health officer has resigned to accept a position in Seattle Dr Eri M Farr has been appointed successor to Dr Botts——Dr Ernest D Hitchcock epidemiologist for the state board of health and director of the hygiene laboratory, Helena, has resigned to associate himself with a clinical group in Great Falls Dr Hitchcock will take over the diagnostic work of the clinic and for the Deaconess Hospital

NEBRASKA

Personal—Dr Margaret W Koenig, Lincoln, child welfare worker for the Lincoln board of education, has left for Washington D C, to take up rural child hygiene for the government under the provisions of the Sheppard-Towner bill Her first work will be in Tennessee

Health Officer Urges Reports on Contagious Diseases—Dr I H Dillon chief of the bureau of health of Nebraska, has recently called the attention of physicians of the state to their laxity in reporting contagious diseases Evidence is cited to indicate that in some instances more deaths than cases are reported making it impossible to secure adequate statistics In concluding his statement, Dr Dillon states that he is opposed to "state medicine' but he warns "Unless the medical profession, both individually and collectively, are able to show a better record the public will, in the near future, provide for some form of state medicine by legislative enactment, for its own protection"

Nutrition Institute—At the summer school of education conducted by the Cleveland Public Schools a nutrition institute was held recently at Lincoln The Lincoln Institute was the first to be held by the department of medical inspection in the city About 100 people were in attendance, including a number of physicians Dr Katharine H R Wolfe organized this department Dr William R P Emerson gave addresses at dinners and conferences of representatives of the leading child-helping organizations including the Associated Charities and juvenile court the educational executives of the University of Nebraska and of the public schools and members of the medical and dental associations In September, an institute will be held in Hartford, under the direction of the nutrition clinics for delicate children, followed by others in Poughkeepsie, Battle Creek, Denver and Honolulu

NEW JERSEY

Psychologic Test at University—It has been recently announced that Princeton University will require every man entering the college to undergo a psychologic test in addition

to the regular examination A trial period of two years has been set for the test If however a man fails to pass the test, but his written examinations are satisfactory, he will not be disqualified At the end of the trial period if the report of the faculty committee which has charge of the test proves satisfactory the psychologic test will be thereafter essential as a written examination

NEW YORK

Columbia University Teaches Eye Conservation—The first training course in eye conservation ever given for teachers under the auspices of an American university was opened recently at Columbia University, with a class of twenty one A feature of the course is an observation class composed of children from New York City schools whose defects of vision have placed them in the sight saving classes Dr Robert R Irwin, supervisor of the sight-saving department of the public school of Cleveland is general director of the Columbia course A committee composed of representatives of city, state and national organizations which is cooperating with Columbia in the arrangement of these courses is headed by Dr Thomas J Riley

Hospital News—A new Jewish Hospital will be erected at Buffalo at a cost of $1 000 000——The cornerstone of the St Francis Hospital, Poughkeepsie was laid July 4——A three story addition will be erected at the Buffalo General Hospital——Construction work will soon be started on the new buildings for Moses Hospital Ticonderoga to be erected at a cost of $250 000——Eleven tuberculosis hospitals in the state have adopted occupational therapy as part of their regular treatment——A new addition will be made to the state laboratories at Albany at a cost of $90 000——The Unity Hospital Brooklyn has acquired ground for the purpose of erecting a modern institution devoted to the treatment of diseases of the eye, ear nose and throat and oral surgery The building will be four stories high and will be equipped with modern facilities——The Methodist Hospital Brooklyn will inaugurate a campaign for $1 000 000 to erect a new maternity pavilion——Construction work has been started on the new hospital to be erected on the grounds of the state Odd Fellows Home at Lockport at a cost of approximately $40 000——The Bronx Maternity Hospital will build a five story annex to be used as a private pavilion This building will contain about fifty beds and will enable the hospital which was opened two years ago to use its present quarters exclusively for charitable work——A public health laboratory has been established in the Champlain Valley Hospital at Plattsburg, for Clinton County by the action of the board of supervisors in appropriating $2 000 annually toward the maintenance of the laboratory This laboratory was established through a gift from David Merke of Plattsburgh in memory of his parents and is known as the Merke Memorial Laboratory

New York City

Find Lost Radium Under Ton of Ashes—A tube of radium valued at $1,000 was lost at the Methodist Episcopal Hospital, July 12 After a vain search the radium was located by means of the electroscope beneath about a ton of ashes that had passed through an incinerating plant in the hospital yard The radium, a 10 milligram tube was uninjured by its passage through the furnace

Associated Outpatient Clinics—At a meeting of the section of ophthalmology, the many problems represented by outpatient work in eye clinics was brought to the attention of the society Consideration was given to topics such as lack of professional standards paucity of equipment, overcrowding in all clinics, especially for work on refraction, the abuse of the clinic by patients able to pay, failure of patients to secure glasses when prescribed unsatisfactory financial arrangements with opticians lack of uniformity of fees charges for admission drugs laboratory examinations and glasses, lack of organization for research incompleteness of records and inadequacy of filing systems A committee was appointed for studying these topics with Dr Walter E Lambert as chairman Dr Conrad Berens Jr, made a study of professional methods equipment, records, teaching and research in nine institutions Studies of the admission procedure fee systems and the provision of glasses in four special eye clinics and eight eye clinics in general dispensaries were made by Dr Gertrude E Sturges In order to ascertain the need for systematic follow-up system in eye clinics, a study was made of 5 200 records from five representative clinics A summary of the findings of the studies, together with the conclusions and recommendations arrived at by the committee will be presented in the report of the section which will be available in the fall

NORTH CAROLINA

Free Vaccine Dispensaries—Free dispensaries for typhoid and diphtheria vaccine will be conducted in Wake County in July and August under the direction of Dr R T Long Dr Long is substituting for Dr Bulla, who is very ill

Medical Meeting—At the Sixth Councilor District Medical Society of North Carolina held in Durham recently Dr Harris H Bass Henderson was elected president and Dr Eric A Abernethy Chapel Hill vice president Dr Burton W Truett Durham, was reelected secretary treasurer

OHIO

Personal—Dr Harry S Noble St Marys has been elected president of the Auglaise County Medical Society——Dr James H Smith Holgate has been appointed county health officer of Henry County and will reside at Napoleon——Dr Arthur O Peters health commissioner of Dayton has been elected president of the Montgomery County Medical Society to succeed Dr C N Chrisman

Public Health News—The standard of health officers has been raised considerably since the change from a health officer for each township village and city to a health commissioner for each city and one for each county Under the old plan there were 2 150 health officers in the state They were elected by health boards and in the smaller places it was difficult to obtain men who were qualified for the work many of them having no knowledge of medicine or health work Of the 171 health commissioners who have replaced them all but twelve are physicians, and two of the twelve are public health nurses A correspondence school course provides them with a thorough knowledge of the work required further augmented by a series of lectures by Dr F Shaffer who has been placed in charge of the lecture bureau

OREGON

Amalgamation of Medical Societies—Preliminary plans have been made for the ultimate amalgamation of activities of the Portland City and County Medical Society the Portland Academy of Medicine and the Oregon State Medical Association Representatives of each organization were summoned by Dr John Guy Strohm, president of the city and county medical society July 4 City Health Officer George Parrish was appointed chairman of a committee of five to investigate the situation with Dr Alpha E Rockey, Dr William B Holden Dr Clarence J McCusker and State Health Officer Frederick D Stricker The three organizations now have an annual overhead of approximately $21 000 It is estimated that by combining the expense will be materially reduced and funds saved for the construction of a central building as headquarters for the combined societies

PENNSYLVANIA

Personal—Dr Richard J Behan Pittsburgh, gave an address on Pain at a recent meeting of the Allegheny Garrett County Medical Society at Grantsville——Dr James G Cumming Oil City has been appointed chief of the bureau of health by Health Director Furbush——Dr Lawrence Webster Fox Philadelphia recently sailed for Scotland where he will read a paper before the annual convention of the British Medical Association at Glasgow——Dr Pascal Brooke Bland Philadelphia was the principal speaker at a meeting of the Cumberland County Medical Society at Vineland July 11——Dr Harry B Schaeffer Shillington has been appointed prison physician at Reading to succeed Dr Henry P Brunner who resigned recently——The degree of doctor of laws has been conferred by Lafayette College on Dr Alfred Stengel professor of medicine in the University of Pennsylvania——Dr F T Aschmann Pittsburgh chemist to the Pennsylvania Bureau of Foods has been elected chairman of the board of chemists of the bureau to succeed the late Prof William Frear

Philadelphia

Ayer Clinical Laboratory—The bulletin of the Ayer Clinical Laboratory of Pennsylvania Hospital which has been suspended for eleven years, is again being published It is expected the series now under way will be permanent

SOUTH CAROLINA

Health Officers' Meeting—The annual meeting of the South Carolina Association of County Health Officials was held in Charleston, July 3-5. Dr. Luther A. Riser, Columbia, director of rural sanitation of the state board of health, and Dr. Leon Banov, health officer of Charleston County, were reelected as president and secretary, respectively.

Venereal Disease Clinics—The directors of the venereal disease clinics in Spartanburg, Orangeburg, Greenville and Columbia held a meeting in Columbia, June 27, with Dr. James A. Hayne, state health officer, who represents the government in venereal disease work. The officers of these clinics discussed an educational campaign featuring the need of venereal disease clinics in each county in the state. The federal government has appropriated $3,583 for the venereal disease clinics in the state on condition that the clinics appropriate a like amount. The four clinics mentioned have met this condition, so that the clinics have $7,166 to carry on the work, with various contributions and subscriptions from other sources.

VIRGINIA

Mental Health Commission—The governor has appointed Dr. S. C. Hatcher, Ashland, chairman of the commission on mental health, which was created by an act of the last General Assembly. Dr. Thomas S. Heming, Jefferson, Dr. William D. Prince, Stony Creek, Dr. William F. Drewry, Petersburg, Dr. Albert S. Priddy, Colony, Dr. Ennion G. Williams, Richmond, and Dr. Paul V. Anderson, Richmond, are other members of the commission.

Personal—Dr. Charles Calhoun Hedges, Marietta, Ga., was appointed instructor in anatomy at the University of Virginia recently.——Dr. Frank Helvestine, Jr., Roanoke, has been appointed instructor in pathology at the University of Virginia, Charlottesville.——Dr. Percy Harris, who was recently appointed city physician for Lynchburg, has resigned the position and decided to remain at Scottsville.——Dr. Edward S. Lester, Witt, has been appointed examining physician by the Norfolk and Western Railway and has moved to Bluefield, W. Va.——Dr. Michael W. Minor, Comorn, has been elected president of the board of directors of the bank of King George.——Dr. Albert C. Lancaster has been elected a member of the city council of Martinsville.——Dr. Stuart McGuire, Richmond, is one of the five men appointed by the governor to complete the personnel of the new war memorial commission, created by terms of a resolution adopted during the last session of the General Assembly.——Dr. William L. Moss, former professor of medicine at the Medical School of Harvard University, Boston, has been appointed head of the school of medicine at the Medical College of Virginia, Richmond.

WEST VIRGINIA

Personal—Dr. Aaron Arkin, professor of pathology and bacteriology at the West Virginia School of Medicine, Morgantown, has been granted a year's leave of absence for study and research abroad. He will spend the year in Vienna, Berlin, Paris and London doing work in pathology and medicine.

CANADA

Canadian Public Health Association—The annual meeting of the association was held in St. John, N. B., June 6-7, under the presidency of Hon. W. R. Roberts, minister of health of New Brunswick. The following officers were elected for the ensuing year: president, Dr. William C. Laidlaw, Edmonton, Alta.; vice president, Dr. Joseph A. Baudouin, Montreal; secretary, Dr. John T. Phair, Toronto, and treasurer, Dr. Albert G. Fleming, Toronto.

Honor for Physician—On the occasion of his retirement from the University of Toronto Faculty of Medicine, a dinner was given in honor of Prof. Irving H. Cameron, June 2, and a portrait of him was presented to the University by Prof. Clarence L. Starr, chairman of the subscribers committee. More than 100 of the subscribers to the portrait attended the banquet. The university was represented by the chancellor, the president and Sir Joseph Flavelle, of the board of governors, who joined in expressing their pleasure in accepting for the university so fitting and lasting a memorial.

Medical Council of Canada—At the annual meeting of the council held in Ottawa, June 1, the following officers were elected: president, Dr. Louis P. Normand, Three Rivers, Que.; vice president, Dr. James M. MacCallum, Toronto, and registrar, Dr. Robert H. W. Powell, Ottawa. Dr. A. G. Brett, Edmonton, presided. There are thirty-two members of the council, which is an administrative body created under the Canada Medical Act, consisting of representatives from the provinces and the universities. Licentiate of the Medical Council of Canada (L. M. C. C.) is the qualification created by the Canada Medical Act and it is accepted in all provinces as sufficient for license. It was decided to offer an examination in English and French, at Montreal, Que., and Halifax, N. S., October 10.

Medical Association News—The Canadian Society of Pediatrics was organized at a meeting in Toronto, recently. Dr. Alexander D. Blackader, Montreal, was elected the first president of the society. Dr. Alan G. Brown, Toronto, and Dr. Morgan, Toronto, were elected vice president, and secretary-treasurer, respectively. Drs. Henry P. Wright, Montreal, Alan W. Canfield, Toronto, and John G. A. Campbell, Ottawa, are the members of the executive committee.——The annual meeting of the British Columbia Medical Association will be held, August 21-26. The place of meeting has not yet been announced.——The Canadian Radiological Society applied at the recent meeting of the Canadian Medical Association in Winnipeg to be recognized as a separate department of medicine in affiliation with the Dominion organization. Its active membership consists exclusively of reputable medical men, members of the Dominion Association, who are actively engaged in this specialty and derive the major portion of their income from it. They have recently established a bureau of consultation and are prepared to give advice to members of the profession on all matters pertaining to the use of roentgen ray and radium and also to assist and advise institutions and physicians who desire to purchase apparatus in the selection of their equipment.

PHILIPPINE ISLANDS

Child Welfare Clinic—The Clinica Infantile has been established in the city of Iloilo for the treatment of babies, children, pregnant women and mothers desiring medical advice and treatment, by the Perfection Lodge, Lopez Jaena, No. 3 with the help of some lodges of higher degree. This clinic is operated by physicians who receive no salary for their services and is open for consultations and treatments for two hours daily, free of charge. There is also no charge for medicines. The present clinic is temporarily in the Gonzalez Building but a new structure is being erected at a cost of, approximately, 3,000 pesos which will be known as the Clinica Infantile Masonica, with three emergency beds. Additions will be made to the building yearly, with the object of using it eventually for a charity hospital. A campaign has already been inaugurated to raise funds for this purpose. Another clinic for the treatment of tuberculosis will be established in connection with the Clinica Infantile when enough money is available. All the attending physicians are Masons in good standing, but special credit is due to Drs. Zaldariaga Gilchrist and Hinojales and Mr. E. Gonzalez for their untiring efforts to make the clinic a success. A baby contest was held in June, in which more than fifty babies took part. Ten prizes were distributed to the mothers of the winning babies.

GENERAL

Warning!—An Old Trick Revived—A Chicago physician writes that a young man called at his office representing himself to be the son of a down state physician and telling a tale of financial distress because of his having been robbed, etc. He requested a sum of money sufficient to take him to his own home and promised to return the loan by the next day. When the applicant secures the loan, the transaction is finished.

Pacific Coast Association of Anesthetists—At the annual meeting of the association at Yosemite Valley, the following officers were elected for the ensuing year: president, Dr. George P. Waller, Los Angeles; vice president, Dr. Mary E. Botsford, San Francisco, and secretary-treasurer, Dr. Eleanor C. Seymour, Los Angeles. The next meeting of the association will be held in San Francisco, June 25-27, 1923, in joint session with the American Association of Anesthetists and in conjunction with the Annual Session of the American Medical Association.

National Health Conference—"Making America healthier" was the object of the Conference of Health Education and the Preparation of Teachers at Lake Mohonk, N. Y., June 26-July 1. The Child Health Organization of America and the U. S. Bureau of Education is cooperating to teach teach-

ers how to convey to children in easily understandable terms the idea of health habits Charles E A Winslow, M S M A of Yale University School of Medicine, was chairman of the program committee and Dr Thomas D Wood of the Teachers' College Columbia University, was chairman of the sessions for the week Drs John R Finley, state commissioner of education Mary Swartz Rose Albert Aheils, Willard S Small of the U S Bureau of Education, Ray L Wilbur and William D Wirt were other members of the committee Dr L Emmett Holt, president of the board of trustees of the Child Health Organization of America, delivered the address of welcome

LATIN AMERICA

Personal Tribute to Cuban Physician—Spanish public health officials tendered a banquet to Dr C E Kohly, the Cuban delegate to the Sanitary Organization Congress to be held in Madrid Many of the most prominent Spanish physicians attended, and a speech was delivered by the Spanish secretary of education

Second Mexican Infant Welfare Congress—A call has already been issued for the Second Infant Welfare Congress, which will be held in Mexico Jan 2-9, 1923 The secretary-general is Dr F Castillo Najera The chairman of the several sections are eugenics Prof I Ochoterena, hygiene Dr R Carrillo medical pediatrics, Dr J Cosio, surgical pediatrics Dr Diaz Lombardo, education, Dr A Pruneda, propaganda Luis Jaso

New Argentine Monthly—A new illustrated medical magazine, *Album Medico Argentino* has begun publication in Argentine It will make a feature of illustrations, and all papers published will be accompanied by the author's photograph and autograph Aside from its scientific section there will be departments of social literary and artistic medicine The first article by Dr Elisco Canton traces the establishment of the protophysician's office in 1778 which anteceded the foundation of the Argentine medical school in 1801 Before that time, medical matters were under the control of the Lima medical office The subscription to the *Album* is 12 pesos ($4 38) The editors insist that theirs is not an advertising scheme although at first sight it may seem so It is printed on good paper, large magazine size, and contains an average of twenty pages The address is Venezuela 766, Buenos Aires

Mexican Medical Congress—Arrangements are being made for the celebration of the Seventh Mexican Medical Congress which will be held at Saltillo, Sept 3-10 1922 The following organizing committee is in charge president, Dr D M Velez, first vice president, Dr J M Rodriguez, second vice president, Dr J Valdez Sanchez secretary-general, Dr E Landa, treasurer, Dr G M Malda, reporter, Dr T G Perrin, members Drs F Bulman R Silva, F Castillo Najera, Mr A Aragon and Dr E F Montaño An appropriation has been asked of the national government One of the novelties of the congress will be the sending by the National University of a group of students who will represent the six different medical years The organizing committee has begun the publication of a special bulletin to discuss matters related to the congress Previous congresses were held in 1892, at Mexico City in 1894 at San Luis Potosi, in 1897, at Guadalajara, in 1910, at Mexico City, in 1918 at Puebla, and in 1920, at Toluca One of the plans is to have each of the Mexican states appoint a physician to study some local disease and report the results at the meeting

FOREIGN

Gift to Paris Academy—One million francs has been bequeathed to the Paris Academy of Medicine by the will of the late Prince Albert of Monaco

Special Degree in Patologic Anatomy—The *Liege Medical* of July 9 is devoted entirely to the inaugural thesis of Dr Jean Firket, when the degree of *Docteur special en Sciences anatomo-pathologiques* was conferred on him by the medical faculty of the University of Liege His subject was "Regeneration of the Blood Platelets After Saponin Poisoning and After Defibrination of the Blood" It was followed by a historical sketch of experimental cancer research to date

New Heart Journal in Spain—A journal entitled *Archivos de las Enfermedades del Corazon y de los Vasos* has begun publication in Spain It will appear irregularly, whenever sufficient material accumulates It is printed on good paper, with many illustrations The editor is Dr Duran Arrom Paseo de Gracia, 99, Barcelona, who is apparently also the author of all the papers appearing in the first number The price is 7 pesetas ($1 09)

Union Medical School—Mission and educational bodies of East China have set in motion a project to build in Shanghai a union medical school at a cost of $500 000 thus reviving an undertaking originally planned by the Rockefeller Foundation but later abandoned St John's University of Shanghai is one of the institutions actively supporting the project This school has had a medical department for more than a quarter of a century When the Peking Union Medical College was being erected by the Rockefeller Foundation a plan to expand St John's Medical School into a Union College at Shanghai was proposed to the Foundation and approved but the purpose was abandoned in 1920 and has only been revived again recently

Annual Meeting of the Netherlands Medical Association—The seventy-third annual meeting of the Nederlandsch Maatschappij tot Bevordering der Geneeskunst was held July 3 at Maastricht in the extreme south of the country The president Dr H Klinkert opened his address with a quotation from a leading Swiss physician of the last century Dr Sonderegger who wrote on his seventieth birthday

When I get to Heaven, I will devote myself for the first five thousand years to the study of medicine What bliss to study the old problems with supernatural insight and ways and means! Klinkert's brilliant address was devoted to the question whether the increasing tendency to specialism is rendering the family physician superfluous He reviewed his own fifty two years of practice as he sought to carry on the sacred torch placed in his hands by the masters before him C'est une belle vocation mais un rude metier," but he is convinced that the position of family physician will grow more and more in prestige and importance 'The family physician will keep abreast of progress in the specialties

The scientific and ethical level of the medical profession in a country is the gage of its rank in civilization'

Personal—Dr John Hill Abram has been appointed to the chair of medicine of the University of Liverpool England made vacant by the resignation of Prof Thomas R Glynn ——Dr John Thomson and Dr Norman Walker have been equally awarded the Victoria Jubilee Cullen Prize by the Royal College of Physicians Edinburgh for the greatest benefit done to practical medicine ——Sir Thomas Lewis recently returned to England after four weeks sojourn in America ——Lieut-Col B H Deare professor of medicine at the Medical College of Calcutta India, has been appointed surgeon-general with the government of Bengal ——The pupils and other friends of Prof L Bolk of the chair of anatomy at the University of Amsterdam recently presented him with his portrait in oil with a number of complimentary addresses over 570 persons contributed to the fund ——Prof A Moussous of the chair of children's diseases at the University of Bordeaux was presented in June with a souvenir plaque and other tributes on the occasion of his promotion in the Legion of Honor ——The Albrecht von Graefe medal is awarded every ten years by the German Ophthalmologic Society The previous recipients have been Helmholtz, Leber and E Hering and this year it was awarded to Hess of Munich Professor von Hess was the guest of the American Medical Association at the Atlantic City meeting in 1907 ——Professor Grober of Jena has returned from a lecture trip to Argentina ——Dr Valle Aldabalde and Dr Vicente Gimeno were elected to the two vacant seats in the Academia Nacional de Medicina at Madrid ——Dr A Ferrannini editor in chief of the *Riforma Medica*, has been decorated by the king of Italy as commander of the Corona d Italia ——A farewell banquet was tendered to Dr U Carpi at Lugano as he left to take charge of the large public hospital at Milan ——Dr Gomez Ulla of Madrid was recently tendered a banquet by 300 of his clients and other friends ——Dr Victor Manuel Nogueras was presented with an engraved tribute signed by all the soldiers who had passed through his hands in the military hospitals at Melilla during the recent campaigns in northern Africa The occasion was a banquet offered him when on leave in Madrid The government, the army medical department the Spanish Red Cross army nurses and others joined in the tribute The *Medicina Ibera* gives details of the addresses

Deaths in Other Countries

Dr L Benini of Modigliana Italy, succumbed to postoperative pneumonia after an operation for hydatid cyst of the liver aged 63 ——Dr P Gerosa, noted for his campaign to popularize sanatorium treatment for the tuberculous He bequeathed his property to the sanatorium at his home, Intra

——Dr W Richter, chief of the dermatologic service of the Chemnitz public hospital——Dr Ramon Salto of Madrid ——Dr F Kratschmer-Forstburg of Vienna, at one time surgeon-general of the Austrian army, aged 79——Dr Emil Sioli, formerly professor of psychiatry at Frankfort, aged 70

Government Services

Maneuvers at Medical Training Camp

The Medical Department Reserve Officers' Training Corps camp, which has been in operation at Carlisle Barracks, Pa, since June 22, was temporarily removed to the Gettysburg battlefield, July 1, for the maneuvers of the U S Marines Two days previously, an exhibit of experimental models of proposed new field devices, as developed by the Medical Department Equipment Laboratory at Carlisle, was set up in the camp of the Marines at Gettysburg, for the purpose of demonstrating this equipment to the officers of the Marines and the attached naval medical personnel The medical exhibit consisted of an experimental model of a new hospital ward tent for base and evacuation hospitals, together with a proposed new combat wagon, a veterinary loading apparatus, a veterinary ambulance, one standard ambulance spare parts trailer, one wheeled litter carrier, a new food cabinet, and an evacuation hospital electric lighting unit The lighting unit was operated successfully and received much favorable comment The exhibit was in charge of Major John P Fletcher, Medical Corps, U S Army, the director of the Medical Department Equipment Laboratory at Carlisle July 4, there was reenacted the mimic battle of Gettysburg, which was executed with reference to all the practices and inventions with arms of modern production At the conclusion of the maneuvers, tents were struck and the R O T C students returned to their own camp at Carlisle Barracks, to resume their training

Retiring Board for Army

The board of general officers has been appointed to supervise and make recommendations for the reduction of the number of officers in the regular Army, in accordance with a recent act of Congress Major-Gen Joseph T Dickman retired, will act as president Other members of the board include Major-Gen Merritt W Ireland, Surgeon-General of the Army, Major-Gen Henry P McCain (retired), former adjutant-general, and Brig.-Gens Andre W Brewster and Ernest Hinds

Promotions in the Navy

Three officers in the Medical Corps of the Navy have been recommended for promotion by the selective board of the Navy They are Lieut.-Coms Addison B Clifford, Eugene A Vickery and Richard A Warner All are to be advanced to the grade of commander

Reduction of Army Medical Personnel

In an official report issued by the War Department and signed by General Pershing the number of officers in the Medical Department of the Army to be eliminated as a result of the recent appropriation act of Congress was announced It follows

Medical Administrative Corps	143
Dental Corps	76
Veterinary Corps	32
Medical Corps	66
Total	317

The procedure to be followed by the elimination board in selecting the officers to be retired or discharged from the service is also included in the report An epitome of it reads

First All officers having less than ten years service who are eliminated will be discharged and given a year's pay

Second Officers having more than ten years service but less than twenty will be retired on a basis of 2½ per cent of the pay for each year's service thus a Captain or Major with twenty years service will receive 50 per cent of $2 400 or $3 000, as the case may be in form of monthly payments as retired pay

Third Officers serving more than 25 years will be retired if physical disability exists on the regular retirement status that is 75 per cent of the rate of pay at the time of retirement It has been pointed out that few Lieutenants will be affected in the retirement plan as practically none of them has ten years service to his credit

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 3, 1922

The Imperial Bureau of Entomology

Sir Arthur Shipley, in the *Times* recently, contributed an interesting account of the Imperial Bureau of Entomology The bureau arose from the Entomological Research Committee, which was instituted in 1909, and was established in 1913 to encourage and coordinate entomological work throughout the empire in relation to human, animal and plant diseases The committee of the bureau is widely representative, and includes the chief entomologist in each of the dominions Its director is Dr G A K Marshall The extent of the work done is shown by the fact that during the last year some 53,000 insects have been submitted for identification by eighty-two correspondents scattered throughout the empire This collection often contained, of course, more than one specimen of a single species Identifications of 4,300 different species have been issued in the same period Much of the material is returned to the collectors, but 13,000 specimens were presented to the British Museum, of which 171 were types or species new to science, and 428 were species not previously represented in the national collection About 5,000 classified bloodsucking insects were distributed to various institutions throughout the empire for teaching purposes

Apart from collecting, identifying and registering this vast mass of material, the bureau issues two periodicals of great value One, a quarterly, the *Bulletin of Entomological Research* contained in the latest number forty original papers and comprised nearly 500 pages The other periodical, the *Review of Applied Entomology,* is brought out monthly in two series, one dealing with insects injurious to plants, the other with insects that disseminate human and animal diseases It summarizes all the papers or books concerning insects of economic importance published in any part of the world in any language It is interesting to note that, before the collapse of civilization in Russia, the abstracts of Russian articles were almost equal in number to those of the United States More than 1,000 periodicals are examined by the staff of the bureau, and the last volume contained nearly 2,300 abstracts The bureau has many other activities It has gradually collected a library of the utmost value which is card-catalogued It has prepared an analysis of the laws of the various countries with respect to the importation of plants which may bring with them new and dangerous pests By the aid of a donation from the late Mr Carnegie, it has sent students to study the methods of dealing with insect pests in the United States It has also sent investigators to tropical Africa who have under trying circumstances, done good work in connection with various disease-carrying insects Much of the work is too varied for detailed explanation and every year it increases At the present time the committee has under consideration a new activity—the supply of beneficial parasites to keep down insect pests The bureau is in effect a clearing house for entomological research It is financed by grants provided by the imperial government and the governments of the dominions, India and the colonies—forty governments in all During the year ending March 31, its receipts were $62,500 and its expenditure $55,000

When Is a Consultant Not a Consultant?

A dispute as to fees which ended in the court is of considerable interest A physician holding appointments at some

minor hospitals sued for the recovery of $655 fees claimed for visits at $10, consultations at $15 and attendance at an operation on the defendant's son for appendicitis, for which he charged $75. The defense was that the fees were unreasonable, as the work done was not a consultant's. Sir Thomas Horder gave evidence that a consultant's work consisted in seeing patients in conjunction with their family physician or by communication with him. But, being a registered practitioner, the consultant had the right to do the work of a family physician if he had the time and inclination. It was also within the right and privilege of the general practitioner, who possessed the personality and experience to do the work of a consultant. If a consultant did a general practitioner's work, it would not be fair to charge the same fees as if he were doing a consultant's work.

Sir Thomas thought that the plaintiff, in attending the defendant's son was acting in the capacity of a family physician. He found it difficult to give an opinion on the fee, but he thought that a reasonable one in the part of London in which the defendant lived would have been $5 before the war. There had been a recommendation that there should be an increase of 50 per cent, to which effect had generally been given. But when several visits were made in one day, $5 would be reasonable notwithstanding the 50 per cent. He did not consider that $75 for attending an operation was reasonable. In his opinion, $25 would be reasonable, and he would charge that himself. Mr. C. H. Pagge who performed the operation for appendicitis, said that he thought that the plaintiff was present in the capacity of family physician. His fee for the operation was $787. The defendant gave evidence that, in 1918, the plaintiff attended him on various occasions for a fee of $5 and that he was called in the capacity of a general practitioner.

Mr. Justice McCardie, in giving judgment, said the case raised a question of considerable importance to the public, namely, what fees a physician was entitled to charge in various circumstances. The defendant was a rich man but he fought the case as a matter of principle. His defense represented a protest by business wealth against the theory that a rich man should pay unusual fees. But the plaintiff contended (in substance) that a physician's fees should vary with the financial status of the patient. After the operation, the plaintiff paid forty-nine visits to the nursing home sometimes several in the day. For these, he charged $10 each. For the single day of the operation, he had charged $75 for attendance at operation, and $40 for four visits. On other days, he charged for four or three or two visits as the case might be at the $10 rate. The justice did not consider the plaintiff a consulting physician in the strictest sense which meant one who acted only in conjunction with the family physician. He frequently visited the houses of patients in much the same capacity as a general practitioner, charging the same rate of fees. The charge of $75 for attendance at the operation was excessive. Sir Thomas Horder, a physician of the greatest eminence, had said that he would not charge more than $25. The justice also thought that the charge of $40 for the four visits on the day of operation was excessive. He gave judgment for $465.

The Suspended Treatment of Venereal Diseases

In a valedictory presidential address at the seventh annual meeting of the National Society for Combating Venereal Diseases, Lord Gorell called attention to a problem that has been troubling every one concerned in the suppression of these diseases—the securing of continued treatment until the patient is cured. Statistics from hospitals and clinics disclose a very unsatisfactory condition. In some, the proportion of those who abandon treatment before cure is as high as 70 per cent. In this country, there is neither notification nor compulsory treatment of venereal diseases, such as exists in the British dominions and in foreign countries. The undue regard for the liberty of the subject, with corresponding want of regard for the welfare of the community, which is such a national characteristic and is so patent in neglect of vaccination is the obstacle. The ministry of health believes that the time has not yet arrived for any general system of compulsory notification.

Food Adulteration. The Use of Preservatives

An appeal to members of Parliament, urging them to protect food from adulteration and deterioration has been sent by medical, scientific, health, temperance, labor and philanthropic associations. The signatories include Sir H. Maxwell, chairman of the departmental committee on the use of preservatives and coloring matter in foods and vice president of the Bread and Food Reform League; Sir James Crichton Browne, chairman National Health Society; Professor Kenwood, chairman Council of the Royal Sanitary Institute; Dr. Beckett Overy, chairman Food Education Society; Dr. Alfred Cox, British Medical Association; Dr. Howart, president Society of Medical Officers of Health, and Dr. Still, chairman National League for Health, Maternity and Child Welfare. A manifesto in response to this appeal has been issued by members of Parliament of all parties. They will do all that they can to obtain for Great Britain the protection against food adulteration which has been secured by Canada, Australia and New Zealand, and will support legislation for a bread of high quality as to purity and nutrition. The dominions have already provided that the purchaser must be notified as to the amount of preservative in food which he buys. A considerable amount of illness may be due to this rarely suspected cause. There is evidence that boric acid, the most largely used preservative, has caused serious toxic symptoms in an appreciable proportion of children and adults. The list of foods containing boric acid is increasing and they are frequently consumed by infants and invalids on whom they may have an especially injurious effect.

The Profession and the Irregular Practitioner

The conferring of knighthood on Mr. Barker, the bone setter in recognition of his work as a 'manipulative surgeon' reported in a previous letter (THE JOURNAL, July 1, 1922, p. 52) has produced in the lay press a flood of denunciation of the prejudice, narrow mindedness and jealousy of the medical profession in refusing to cooperate with or recognize such a genius. In a letter to the *Times* Lord Dawson, physician to the London Hospital, combats such an interpretation. He considers that the cooperation of the profession with the callings ancillary to medicine should be encouraged and that we should never hesitate to seek the help of any worker, chemist, psychotherapist, masseur or healer when such help seems to be beneficial to the patient. There are no professional rules against this. But cooperation is one thing, admission to the responsibilities and rights of the profession is another. It takes years of hard and organized study to produce a physician. Efficiency is based on knowledge to reach which there is no short cut. Psychotherapists and healers for example, have certain specialized aptitudes, and some have brilliant gifts but they are not physicians. They can do excellent work in their own spheres and when cooperating with physicians. By all *means*, let us facilitate their doing so, and be open minded and *generous* in our bearing toward them. But sectional knowledge *must* be subordinate to the general knowledge of which *it is part*, those who have not the prescribed medical *training should* be under the guidance of those who have. A skilled masseur was asked for treatment by a *young man* suffering from abdominal pain. The treatment was *given in good* faith, but

without medical guidance The patient had appendicitis and nearly died In the interest of the public, the responsibilities of physicians must not be assumed by those without the prescribed training and qualifications The authorities cannot make exceptions It is not a question of conserving the privileges of a professional class, but a question of the public safety This country produces many men with the natural gifts of the sailor Imagine a gifted amateur wanting to captain a liner What would the board of trade say? 'Very sorry, but you have not the necessary training and certificates, and we cannot give permission" Does not the same apply to the human ship in its voyage across the sea of life?

PARIS

(From Our Regular Correspondent)

June 30, 1922

The United States and International Intellectual Cooperation

I mentioned in a previous letter (THE JOURNAL June 10, 1922, p 1828) that the council of the League of Nations had designated eleven members of the commission to study the question of promoting international intellectual cooperation The twelfth and last seat was reserved for an American scientist The general secretary of the league has just been informed that Mr George Ellery Hale, director of Mount Wilson Observatory and professor of astrophysics at the University of Chicago, has accepted the invitation to take part in the proceedings of the commission as the representative of the United States

Quinin Sickness of Occupational Origin

Drs Blamoutier and Joannon, interns of the Paris hospitals, observed in Dr Jeanselme's service a case of eczema that occurred in a workman employed in a quinin factory Several clinical and etiologic features of the case inspired them to study the frequency, the importance and the conditions of appearance of this occupational dermatosis The results of their research were published in the last number of the *Revue d'hygiene*

Three operations are necessary for the manufacture of quinin crushing of the cinchona bark to obtain cinchona dust, treating the powder with an oil and acid, and purification of the solutions of quinin salts, desiccation, pulverizing and packing These three operations are made in different parts of the factory by special workmen The first and second are made by men, and the third by women The three operations are not equally dangerous The dust from cinchona bark is liable to induce skin lesions, and these were quite frequent years ago when the crushing of the bark was made in the open At one time it even gave rise to serious complaints from workmen, and the factories were obliged to employ others to do the work Since the crushing machines have been covered, and the cinchona powder is piped through underground channels, these accidents are not so frequent About a fifth of the workmen employed in the second phase of the manufacture of quinin suffer from skin manifestations The third operation seems free of danger as eczema has never been observed among the women employed in drying and packing quinin salts This observation does not concur with reports from other writers who assert that workmen handling quinin sulphate are subject to skin eruptions The first evidence of illness is an eruption of the fleeting erythematous type accompanied by pruritus It appears in the folds (elbow, axilla, groin) and in the suborbital region, the skin becoming puffy and red It is in this last region that foremen look for evidence of the condition in new workmen, in order to detect sensitive subjects

The lesions disappear in a few days, if work is stopped The second stage presents the typical form, with acute eczema, edema, redness, vesiculation, oozing, secondary formation of scabs and intense pruritus When work is stopped, the symptoms disappear in about three weeks, but recurrence is inevitable if the subject persists in working in the factory Workmen are well aware of this phase of the disease, as a rule, when they have suffered from quinin eczema, they do not go back to the factory even to be paid off, but send their wives instead If the wife of a workman who has been forced to stop work for this reason is employed in the factory, she is obliged to leave the factory lest, through her, there be a recurrence of the husband's dermatosis The substances with which her clothes are saturated suffice to produce the condition, and long after the workman has left the factory, susceptibility persists in a latent state and flares up under a slight cause The case is cited of a workman who had suffered from quinin eczema but had not been working at the factory for several years, when he took a small dose of quinin for a slight illness, and a cutaneous reaction occurred The physician treating him was physician for the quinin factory, and he was unable to understand the case until he recalled the patient's history Newly engaged workmen who have not shown any sign of eruption after fifteen days are definitely immune Thus, it can be seen that there exists a sort of test which decides the workman's fate If there is susceptibility to quinin during the first week, it is never overcome, if there is no susceptibility, it is never acquired later

On the whole, the sickness is not an ordinary dermatosis due to an external cause, but is a real disease with skin manifestations It seems that cinchona dust acts as an anaphylaxis-inducing substance Is it possible to detect the predisposed? Blamoutier and Joannon recall the skin reaction mentioned by Boerner (THE JOURNAL, March 24 1917, p 907), and they question whether a similar test could not be applied to newly engaged workmen, to distinguish the sensitive subjects and discharge them before the appearance of the dermatosis On the other hand, it might be interesting to ascertain whether desensitization of subjects suffering from quinin sickness is not possible Blamoutier and Joannon are trying to accomplish this by the use of progressive small doses of quinin sulphate, but their experiences have not been decisive to date

The French Red Cross in Russia

In accordance with the agreement between the soviet republic of Russia and the French Red Cross (THE JOURNAL, April 29, 1922, p 1327) it has been decided that the French Red Cross mission will leave France for Russia about July 1 Nine thousand tons of various kinds of merchandise is being loaded in Dunkirk on the steamer *California* for Petrograd The general director of the Red Cross Monsieur *Hannonet* de la Grange, will be in Russia before the arrival of the relief ship

Death of Imbert

Dr Armand Imbert, former professor of physiotherapy of the faculty of medicine of Montpellier, died recently in Marseilles at the age of 71 He had been associate professor at Lyons and later professor at Montpellier, and was at the same time head of the service of electrotherapy and radiography of the Saint-Eloi Hospital His scientific works deal mostly with biologic physics In 1896, he introduced in the technic of radiography improvements which insured clearer pictures and admitted a considerable reduction of the length of exposure, which won him the Monthyon prize He also undertook a series of researches on physiologic optics, the mechanism of muscular contraction, phonation etc He was the pioneer in France in the study of the physiology of industrial work, and had the satisfaction of witnessing before his death the creation of laboratories for research on the subject that he was first to consider of scientific and practical value He was still devoting his time to these studies at

the time of his death Professor Imbert published the "Anomalies de la vision," a "Traite elementaire de physique biologique" and a "Traite elementaire de physique generale," the last named with the collaboration of Dr Bertin-Sans He wrote also a volume on "Observations economiques de vies ouvrieres" He has been national correspondent of the Academy of Medicine since 1899

The Centenary of Pasteur

A legislative bill that recently passed the chamber of deputies provides for the granting of an appropriation of 3,620,000 francs to enable the state to participate in the commemoration at Strasbourg of the centenary of Pasteur The committee delegated to inquire into the project has reported that the centenary of this great scientist should be celebrated not in Strasbourg alone but also in Paris and in various cities of Franche-Comte in which Pasteur lived—particularly, Dole, Lons-le Saunier Arbois and Besançon The committees on public instruction and public health, after hearing Monsieur Strauss, minister of public health, who spoke in the name of the government, reached the same conclusion and decided to request the government to modify the scope of the centenary by eliminating the two words "at Strasbourg" Acting on the suggestion of Monsieur Deville, in turn, the municipal council of Paris has unanimously voted an appropriation of 50,000 francs for the celebration at Paris of the centenary of Pasteur

A Medallion Cabinet at the Academy of Medicine

At the last meeting of the Academy of Medicine, Monsieur Hanriot announced that the academy proposed installing, in the hall of the immortals, a cabinet in which would be kept the medallions of members of this assembly

MADRID

(From Our Regular Correspondent)

July 1, 1922

Tribute to Cajal

Having reached the age limit, Prof Santiago Ramon y Cajal has retired as incumbent of the chair of normal histology and pathology of the Madrid Medical School The whole country has rendered tribute to the great scientist bestowing on him every distinction and honor, the greatest perhaps, being the award of the Echegaray medal This was presented to him in the Royal Academy of Sciences by the king, who delivered a speech overflowing with respect and love for the illustrious Spaniard, who has brought so much prestige to his country A number of cities have designated Ramon y Cajal as their adopted son, many others have named streets after him, and prizes have been established in his name The government performed an act of greater importance in introducing a bill for the construction of a building for the Cajal Institute which was organized, Feb 20, 1920 The bill carries an appropriation of a million pesetas ($155 400), divided into four sums which will be spent annually from 1922 to 1925 on the building designated as Cajal's Biologic Institute An appropriation of 50,000 pesetas ($7,770) a year is made for maintenance, including the 10,000 pesetas ($1,540) now provided for Cajal's laboratory The work of the institute will be directed by a board of trustees presided over by Cajal

Death of Dr Azua

Dr Azua professor of dermatology of the Madrid Medical School and physician to the San Juan de Dios Hospital, is dead Dr Azua was an outstanding personality his authority as a dermatologist and scientist being acknowledged by all He was a *self-made man, unhampered by his environment* who began his career with a struggle against the dermatologic views prevailing at that time The French doctrines of the dyscrasias held full sway in Spain, and as a protest he leaned toward the pathologic and localizing theories of the Vienna school With his enthusiasm for concrete facts positive data and experimental control, he opened a common sense path which future generations may follow, and for this the younger physicians are grateful No practicing physician had a reputation comparable to Azua's, whose enormous practice brought him a fortune He was trained by his experiences in the San Juan de Dios Hospital one of the leading institutions devoted to venereal and skin diseases His merit was so well known that, in spite of the jealousy always shown by the Madrid University toward hospital physicians, a special chair was created by the minister of education and Azua became the first Spanish professor of dermatology and syphilology This creation of a professorship by a minister, while it turned out well in Azua's case, was later abused, and it has been one of the causes of the decline of the medical school, as the only qualification enjoyed by *several professors appointed in this way* was the minister's friendship Through Azua's single-handed efforts and determination, the *Spanish Dermatologic Society* was founded A few days before his death, he had submitted to the National Academy of Medicine the text of his reception speech, and not long ago a group of South American physicians presented him with a testimonial of their admiration

Fiftieth Anniversary of Espina y Capo

Dr Espina y Capo a specialist in chest diseases, has celebrated his "golden wedding" with medicine The medical profession showed its admiration and love for the old master by *ordering a marble bust* which was unveiled with proper ceremonies in Ward 27 in the General Hospital of Madrid, where Dr Espina practiced for many years The provincial board, which has general supervision over the hospital attended in a body The medical profession in spite of its quarrels and passionate disputes, is the one in Spain which knows best how to honor its prominent representatives There are at present in Madrid not less than ten marble and bronze statues of physicians Benavente, Federico Rubio Eugenio Gutierrez, San Martin Pulido, Achucarro, Cortezo, Esquerdo, Espina y Capo and Ramon y Cajal Dr Espina y Capo has been a great popularizer of his selected field, a noted orator in the National Academy of Medicine and the Public Health Association and in the senate where he cooperated in the enactment of sanitary legislation He is also one of the leaders in the antituberculosis campaign, and the highest authority on this disease in Spain

BERLIN

(From Our Regular Correspondent

July 7, 1922

A Prussian Institute for the Study of Problems of Air Hygiene

In 1901, the Prussian government, having in mind the contamination that drinking water and water used for other purposes undergo created in Berlin an experiment station for the study of water problems, including the best means of disposing of sewage waters In 1913 an institute known as the Landesanstalt fur Wasserhygiene with headquarters of its own at Dahlem near Berlin, was established The function of this central station was to study from hygienic and economic standpoints the problems pertaining to the securing of adequate and satisfactory water supplies and the disposal of sewage and waste products in general The institute was, in this connection, to conduct researches and to perform tests of general value and interest It was to accept any commissions imposed by the various ministries, and

minor researches were to be made for officials and private persons, for which a definite fee was chargeable Furthermore, it was to furnish central authorities with information and issue certificates or testimonials in the interest of public welfare

The present director of the institute, Geheimrat Beninde, member of the Prussian ministry of public welfare, has recently issued a statement in which he recommends that the activities of the institute be extended so as to include researches on problems pertaining to air hygiene Not only the water supplies but also the air is being greatly contaminated by the enormous development of modern industry, and this contamination is exerting an effect on plant and animal life, and more particularly, on the hygienic conditions under which mankind lives He points out that contamination of the air through industrial plants and the various mechanisms of modern life may be classified under two main heads, through (1) gas, and (2) dust In the air are found more or less large quantities of carbon dioxid gas, which results from putrefaction and fermentation processes, and carbon monoxid from imperfect combustion of fuels, being found in considerable quantities mixed with the gases of blast furnaces and the smoke from chimneys Chlorin is found in the air in the vicinity of certain factories, likewise hydrochloric acid sulphurous acid, sulphuric acid, hydrogen sulphid, volatile fatty acids and other foul smelling gases develop under various fermentative processes Various forms of air dust have also developed with the increase of industry and traffic Most prominent are smoke and soot, the products of incomplete combustion of coal The relation of air contamination to disturbances in the human organism is a well known chapter in pathology, more particularly the part played by air contamination in the causation of occupational diseases In view of the facts, the Prussian government has already approved Director Beninde's plan and has taken the necessary action to put the Landesanstalt fur Wasserhygiene in a position to undertake researches in the domain of air hygiene

Excess of Male Births

In a previous letter I referred to the question of an excess of boy babies and recently Dr Hartmann brought up the subject again, citing statistics in proof of his opinions In the period from 1915 to 1920, it appears from the records that the excess of boy births materially increased, for example, in Prussia the excess of boy babies over girl babies was 7 2 per cent, as compared with an excess of 6 2 per cent for the period 1910 to 1915 In 1919, the excess amounted to 8 6 per cent In Saxony the excess amounted in 1917 to 8 2 per cent, and in 1919 to 9 2 per cent In Bavaria, the excess for 1918 was 8 8 per cent, for 1919, 8 5 per cent, as compared with an excess of 6 2 per cent for the period 1910 to 1917

Statistics on Prostitution

The Munich physician Dr Marcuse gave here recently a report on the nature and spread of clandestine prostitution in Munich Of 832 clandestine prostitutes who were rounded up by the police in Munich, 438 were affected with venereal disease 271 of them for the first time Of these 832 girls, 333 had been brought up in the city, while 467 were from rural sections (which leaves thirty-two unaccounted for) Of the 832 delinquents, 607 declared that they had no regular means of livelihood, 130 belonged to the 25-30 age group, 260 to the 20-25 group, 256 to the 15-20 group, while five were under 15 years of age Alcoholism in the family history was noted in 195 cases, insanity in fifty-one cases, and epilepsy in twenty cases In the case of fifteen, the ancestors had suffered from nervous diseases, while, in sixty-one cases, both parents of the girls had been affected by some predisposing malady

Marriages

JAMES ALEXANDER WADDELL, University, Va, to Miss Mary C Graves of Somerset, Va, June 27

ARTHUR C KNIGHT, Philipsburg, Mont, to Miss Karen Hansen of Wilbur, Wash, June 29

JOHN JULIAN CONNELLY, Rockville, Ind, to Miss Harriet Hubbard of Indianapolis, recently

AUSTIN INGRAM DODSON, Richmond, Va, to Miss Louise Barham of Emporia, Va, June 6

JOHN KIRK RICHARDSON to Miss Irene Trotter Geisinger, both of Richmond, Va, June 12

CARLISLE CALAHAN COCHRAN, Huntersville, N C, to Miss Adelia John Everette, June 6

WALTER MCBETH, Royal Center, Ind, to Miss Julia Faye Frye of Adams, Ind, June 28

PARKS M KING, Charlotte, N C, to Miss Anna Howerton of Lexington Va, June 27

ROBERT H BELL to Miss Minnie E Dilks, both of Carlinville, Ill, June 6

Deaths

Frank Lester Morrow, Braddock, Pa, University of Pittsburgh School of Medicine, Pittsburgh, 1913, member of the Medical Society of the State of Pennsylvania, aged 33, was instantly killed, July 5, when the automobile in which he was driving a patient to the hospital was struck by a Baltimore and Ohio express train

Laughlin O'Neal Malsbury, Peru, Ind, Kentucky School of Medicine, Louisville, 1891, member of the Indiana State Medical Association, formerly secretary of the Miami County Board of Health, at one time a member of the city council, died July 5, in Chicago, aged 54, from toxicemia caused by ischiorectal abscess

Charlotte Steckel Farrington, Philadelphia, Woman's Medical College of Pennsylvania, Philadelphia, 1901, member of the Medical Society of the State of Pennsylvania and the Philadelphia Psychiatric Society, died, July 12, at the Presbyterian Hospital, aged 52, from heart disease

Robert Rice, Haverhill, Mass, Hahnemann Medical College and Hospital of Philadelphia, 1908, member of the Massachusetts Medical Society, on the staff of the General Stephen Henry Gale Hospital, where he died, July 9, aged 50, following a long illness

Clayton W Russell, Springfield, Ohio, Eclectic Medical Institute, Cincinnati, 1890, member of the Ohio State Medical Association, formerly president of the Ohio Eclectic Medical Association, died, July 13, aged 56, from heart disease

James Eddy Blake ⊕ Whitestone, N Y, Columbia University College of Physicians and Surgeons, New York, 1898, University of Bonn Germany, 1902, also a member of the New Hampshire Medical Society, died July 18, aged 49

Lauriston M Berry, Guernsey, Wyo, University of Vermont College of Medicine, Burlington, Vt, 1869, member of the Wyoming State Medical Society and the Massachusetts Medical Society, died, July 6, aged 80

George W Metzger, Hughesville, Pa, University of Pennsylvania School of Medicine, Philadelphia, 1866, member of the Medical Society of the State of Pennsylvania, Civil War veteran, died, July 7, aged 81

Edward Ashby Waugh, Lynchburg, Va, University of Virginia, Department of Medicine, Charlottesville, Va, 1883, member of the Medical Society of Virginia, died, July 9, aged 69, from angina pectoris

Albert Henry King, West Palm Beach, Fla, Cincinnati College of Medicine and Surgery, 1901, member of the Florida Medical Association, died, June 30, at Asheville, N C, aged 45

⊕ Indicates Fellow' of the American Medical Association

Frances W. Boyer, Pottsville, Pa., University of Pennsylvania School of Medicine, 1868, formerly president of the Milliken Hospital board, died suddenly, July 11, in Germany, aged 73.

George M. Bell, Wakefield, N. C., College of Physicians and Surgeons, Baltimore, 1880, member of the Medical Society of the State of North Carolina, died, May 18, aged 66.

James Marcus Everett, De Kalb, Ill., Rush Medical College, Chicago, 1877, member of the Illinois State Medical Society, died, July 6, aged 69, from interstitial nephritis.

Arthur Reeves, Oberlin, Kan., Ensworth Medical College St. Joseph, Mo. 1910, member of the Kansas Medical Society, died, July 7, aged 38, from appendicitis.

Willis E. Kennemur, Sulphur Springs, Texas, Medical Department, University of Louisville, Louisville, Ky., 1894, died, July 3, aged 56, following a long illness.

Caroline Eliza Hastings, Sharon, Mass., New England Female Medical College, Boston, 1868, died, July 10, aged 80 at the Massachusetts Homeopathic Hospital.

Daniel Albert McCarthy, Troy, N. Y. Albany Medical College, Albany, N. Y. 1899, formerly city physician, died June 16, aged 44 at the Troy City Hospital.

Francis Pierce Silva, Boston, Medical School of Harvard University, Boston 1893, member of the Massachusetts Medical Society, died, July 13 aged 52.

Joseph Benedict Lyons, Boston, Medical School of Harvard University, Boston 1894, member of the Massachusetts Medical Society, died, July 18, aged 50.

Charles William Buchanan, Jr., Toronto, Ont., Canada, University of Toronto Faculty of Medicine Toronto Ont., Canada, 1865, died, May 20, aged 84.

John D. Jay, Pera, Ala. (licensed Alabama, 1888), member of the Medical Association of the State of Alabama, died July 14 aged 81, from senility.

Thomas F. Flaherty, Massey Station, Ont. Canada Western University Faculty of Medicine, London, Ont., Canada, 1895, died, May 7, aged 53.

Clara A. Hovey ⊕ Chicago, College of Medicine and Surgery (physiomedical) Chicago, 1903, died July 16, aged 66, from cerebral hemorrhage.

John J. Meigs, Stockton, Calif., Medical School of Harvard University Boston, 1860, died, July 6, aged 83, at St. Francis Hospital, San Francisco.

Oscar B. Stafford, La Salle, Ill. (licensed, Illinois, 1877), died, July 6, aged 82, at the People's Hospital, Peru, Ill. following a long illness.

Edward C. Wagner, Wilkes-Barre Pa., University of Pennsylvania School of Medicine, 1890, died July 9 aged 66, from heart disease.

Joseph Roy Hawley ⊕ Chicago, Northwestern University Medical School, Chicago, 1893, died, July 20, aged 50, from chronic nephritis.

Henry Clay Rose, Dayton, Tenn., University of Nashville Medical Department, 1874, died July 4, aged 72 following a long illness.

Charles Williams, House Springs, Mo. St. Louis Medical College, 1872, died, July 8, aged 75, from cerebral hemorrhage.

Christian Emil Stafrin ⊕ Portland, Ore., University of Oregon Medical School, Portland, 1911, died suddenly, July aged 46.

Emily Metcalf Thurber, Providence, R. I. Boston University School of Medicine, Boston 1878, died, June 30 aged 85.

Hiram S. Chapin, Holder, Ill., Rush Medical College, Chicago 1872, died, July 9 aged 73, from chronic arthritis.

Marion Holland, Cassopolis, Mich., University of Michigan Medical School, Ann Arbor, 1875, died July 3, aged 70.

George W. Barkman, Govans, Md., College of Physicians and Surgeons, Baltimore, 1881, died, July 11, aged 71.

Joseph H. Lurie, New York, University of Berlin, Germany, 1875, died, July 9, aged 74 from heart disease.

John Ward Willson, Baltimore, Baltimore University School of Medicine, 1889, died June 24, aged 77.

Albert Franklin Bonney, Buck Grove, Iowa (licensed, Iowa, 1889), died, June 30, aged 68, from uremia.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

THE AMERICAN MEDICAL LIBERTY LEAGUE

It was in 1910 that the speciously named "National League for Medical Freedom" began its intensive campaign against scientific medicine in general and the American Medical Association in particular. Engineered and inspired by nostrum exploiters and those opposed to pure food laws, aided and abetted by the followers of the various cults, the League for Medical Freedom blazed its rocket-like course across the medical firmament—and in due time the stick came down! Doubtless there was good money in it for some one while it lasted. Tens if not hundreds of thousands of dollars, were expended in newspaper advertising alone. But its effort was abortive because it was fundamentally wrong-headed and the good sense of the American people penetrated the motives that were behind it.

It is some time since we have heard of the "National League for Medical Freedom", today there is another organization less heavily financed, but still, doubtless, producing a living for those who engineer it. It is the American Medical Liberty League,' with headquarters in Chicago. This concern does little, if any, newspaper advertising. It does, however get out a set of leaflets and pamphlets and those who are for one reason or another, opposed to scientific medicine, purchase these leaflets and distribute them.

SOME LIBERTY LEAGUE LITERATURE

As indicative of the type of "literature" thus issued, the following partial list is given.

Medical Health Officers Syphilizing the Nation." This leaflet declares that all vaccine virus shows the reaction of congenital syphilis and 'even the vaccine scars show its contamination.' The leaflet quotes as its authority for this charge Albert Abrams, A.M., LL.D., M.D. (Heidelberg), F.R.M.S. Price, 45c a hundred.

Toxin-Antitoxin—How It Kills and Cripples Children." Purports to be a Detailed Story of the Horrible Results Following a Texas Serum Campaign." Price, $1.00 per hundred.

The American Medical Liberty League." Professes to tell what the League' is, "Why you need it" and, in large bold-faced capital letters, 'HOW TO WORK IT!" Only 40c a hundred.

The Going of Cumming." Said to be "Paragraphs on the Enlightenment on Calf Pus Cult", in reality, a tirade against Surgeon General Hugh S. Cumming. They come at 70c a hundred.

Know the Facts About Vaccination." An alleged compilation of 'statistics and expert testimony' brought together by Lora C. Little (of whom more later) and reprinted by permission from Dr. George Starr White's (of whom, also, more later) Lecture Course to Physicians." Ten cents a copy.

These are but a few of the pieces of propaganda that are being sent out by the "American Medical Liberty League." At their headquarters they will also hand out to those interested a reprint from the *Lindlahr Magazine* (the house organ of a so called 'nature cure institute") telling of the marvels of the electronic diagnosis and treatment' of Albert Abrams! They hand out too, the *Central States Osteopath* the official organ of the Illinois and Wisconsin osteopaths.

SOME INQUIRIES

During the past two or three years inquiries have been received relative to the League." A physician, health officer in a Virginia city wrote:

> I enclose a leaflet of the American Medical Liberty League Chicago, Ill. This leaflet was submitted to a local paper as an advertisement to be charged to the account of a chiropractor of this city. The news paper informed me that it has refused to publish it. I am interested not only in the anti-vaccination propaganda of *this leaflet*, but also am pleased that the newspaper should have refused to publish it.

This from the state health officer of a southern state

Will you please advise me as to the cult Mrs Little represents?

These are representative of inquiries received The American Medical Liberty League was brought into existence in the latter part of 1918 Lora C Little seems to be the moving spirit of the organization and appears officially as its "secretary" In November, 1918, Mrs Little sent out a mimeographed letter headed "STRICTLY PERSONAL AND CONFIDENTIAL" It was to the effect that with the coming of peace there would 'burst forth" what was described as "long-pent feeling over medical outrages, committed wholesale the past two years " Further, this bursting would give a grand opportunity to the believers in 'medical freedom" to make a killing 'Two big things" would be necessary to "meet the situation" first, "a full exposure, backed by an array of authentic facts" which must be, 'when the proper time has

Reproduction (reduced) of the letterhead of the Ensign Remedies Company a concern which sells cures for Disappointment in Love Floating Kidney Laziness Locomotor Ataxia' and many other conditions

come, widely distributed", second, "a definite program of action"

Then came the nub To accomplish these "two big things" funds were required, hence, the appeal for "membership" in the American Medical Liberty League, price $2 00 a year "which covers subscription to the *Truth-Teller*" According to Mrs Little, ten individuals in any locality who join the 'League" and pay their annual fees may organize a "Local League"

THE "TRUTH-TELLER"

Before dealing with the personnel of the founders of the League, which in itself is interesting something should be said about the "League's" official organ, the *Truth-Teller*—ironical name! This somewhat lurid sheet is "published semimonthly by the Truth-Teller Publishing Company at 38 N Division St, Battle Creek, Mich" The Battle Creek telephone directory does not show any company of this name but it does show the "Ensign Printing Co" at 38 N Division St The editor of the *Truth-Teller* is W S Ensign—of whom more later—who puts after his name the mystic abbrevation "Phys et Pat Ch" Its "Associate Editor" is Wilhelm Heinrich Schwartz, M D , its "Managing Editor' is D W Ensign and its "Traveling Representative" is Thomas D Ensign, in short, it seems to be largely an Ensign publication The *Truth-Teller* keeps no subscription books but, if you receive a copy of it regularly, "you can rest assured that the subscription price of same has been paid" The *Truth-Teller* was previously *The Peril* ("America's Weekly Journal Devoted to Homeopathy and Humanity") which, in turn, was originally known as *America's Homeopathic News* edited by Wilhelm Heinrich Schwartz, M D , "Vice-President of International Anti-Vivisection and Cruelty to Animals Congress, etc etc

But, to get back to the American Medical Liberty League In the "Strictly Personal and Confidential' letter previously referred to, the officers of the 'League' were given as follows

President—Charles M Higgins
Vice-President—Eli G Jones
Secretary—Lora C Little
Treasurer—D W Ensign
Director—J H Greer
Director—W S Ensign
Director—J W Griggs

CHARLES M HIGGINS, Brooklyn, New York This gentleman was, if he is not still, the treasurer of the "Anti-Vaccination League of America," and a somewhat active member of the "National League for Medical Freedom' He is or was, a member of the "Vivisection Investigation League," and the 'New York Anti-Vivisection Society" He published a sixty-four page pamphlet ("with exhaustive index, 10c, post paid") entitled 'The Crime Against the School Child," which advised the public 'how to legally defeat vaccination, the medical evil which now kills more children than smallpox" This was advertised in the *Truth-Teller* In 1917 Higgins also issued a twenty-four page pamphlet entitled 'Restore the Coroners, Check Dangerous Medical Domination, and Protect Public Life and Safety"

ELI G JONES, Buffalo, New York Dr Jones was graduated fifty years ago (*1872*) by Dartmouth Medical School He was for some time "President" of the egregious "American Association of Progressive Medicine" A few years ago he was sending out circular letters to physicians offering to teach—for a consideration—his method of curing cancer Dr Jones claimed to cure 80 per cent of all cases of cancer that he treated In his letters to Ohio physicians he gave the name of Dr C S Carr of Columbus, Ohio, as a reference Carr was Peruna's advertising expert and ran a little medical mail-order concern of his own as a side line Carr also published a freakish publication known as the *Columbus Medical Journal*, in which periodical Eli G Jones told about his "cures" for cancer, and numerous other things and in which the Ensign Remedies Company advertised and to which W S Ensign contributed Of course Dr Jones was a member of the National League for Medical Freedom" when that institution was in existence According to a character sketch published in the *Truth-Teller*, Dr Jones "has at different times practiced Allopathic Eclectic, Homeopathic, Physio-Medical and Biochemical medicine" We can easily believe it

LORA C LITTLE Mrs Little, who seems to have had much to do with the organization of the League" apparently hailed from the Pacific coast, where she was a traveling lecturer whose business it was to create sentiment against vaccination. Mrs Little contributes prolifically to the "League's" house-organ, the *Truth-Teller* In addition to being "Secretary" of the American Medical Liberty League, Mrs Little was also 'Secretary" and "Official Organizer" of the "Central Health Committee of the State of Illinois" There was the usual proportion of names of chiropractors and osteopaths on the letterheads of the official stationery of the "committee" This "committee," too, solicited funds—"for the purpose of

DOCTOR I teach physicians (by mail) my method of treating cancer tumors malignant growths both external and internal. This method of treatment has stood the test of nearly forty years practice.

I have a record of permanent cures of genuine cancer made fifteen to twenty four years ago and there has been no return of the disease I want some good reliable physicians who are willing to learn and are ambitious to do things.'

The best of references to physicians and patients. Address for further particulars

ELI C. JONES M D
85 Bayard St. New Brunswick N J

In this advertisement (nearly as large again in the original) published some years ago Eli C Jones described his mail order course in curing cancer

securing medical liberty in the new Illinois constitution'—and made a special plea that the persons circularized should help secure, for a delegate to the Constitutional Convention, the nomination and election of Frederick A Freeark, a Chicago lawyer who would 'stand to the last ditch for our principle" Mr Freeark's name appeared later as one of the 'directors" of the "American Medical Liberty League" He was not elected

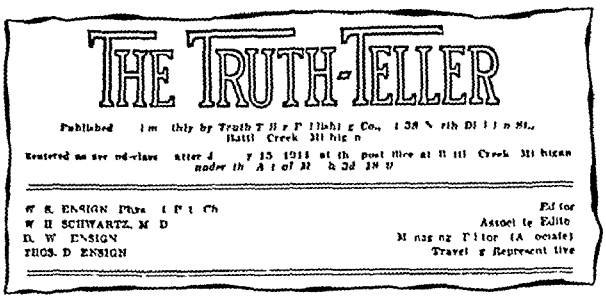
D W ENSIGN, Battle Creek Mich Mr Ensign was "Business Manager and is now 'Managing Editor' of the *Truth-Teller* Enough said

J H GREER, Chicago Dr Greer was graduated in 1875 by the Bennett Medical College, then an eclectic institution For many years he conducted the 'Harvard Medical Institute' in Chicago and specialized in genito-urinary work In 1910 the United States immigration officials on the Canadian border

wrote for information regarding J H Greer, stating that a number of aliens had received Greer's advertisements and sought entry into the United States for the purpose of treatment Some of these aliens sent to the immigration service letters which they had received from Greer, together with some of Greer's advertising matter Greer, it seemed, issued a booklet entitled "A Peep at the Mysteries of Nature" whereby he drummed up trade Greer also urged some of his prospective mail-order patients to purchase his book "A Physician in the House" As Greer put it

> If you cannot come and see me treat yourself This you can do with the aid of my book A Physician in the House Get a copy of it, study it carefully and apply it exactly and watch your pains and aches vanish like an ugly dream at dawn"

According to a prospectus of this book "It opposes medical fads of all kinds, and makes uncompromising WAR ON VACCINATION, and the use of ANTITOXIN" Furthermore it was


THE TRUTH-TELLER

Published I m thly by Truth T ll r P blish r Co., 1 38 N rth Di i n St., Battl Creek Mi higa n

Entered as sec nd-class matter d r 15 1913 at th post ffice at B ttl Creek Mi higan nder th A t of M h 3d 18 9

W S. ENSIGN Phys. t P t Ch — Ed tor
W H SCHWARTZ, M D — Assoc te Edito
D. W ENSIGN — M nag r T ll r (A ociate)
THOS. D ENSIGN — Travel g Represent tive

It will be noticed that the Truth Teller seems to be a family institution

said to contain 'Valuable INFORMATION for the MARRIED" Greer claimed that he did not guarantee cures "except in surgical cases, such as varicocele, hydrocele, hernia, fistula hemorrhoids, and stricture, etc"

ENSIGN'S CURE FOR BASHFULNESS, ETC

W S ENSIGN Phys et Pat Ch" Battle Creek, Mich Mr Ensign is Editor of the *Truth-Teller* and, with Mrs Little, apparently an important factor in the American Medical Liberty League Presidents vice-presidents and treasurers seem to change, as do also some of the directors, but through all W S Ensign and Lora C W Little continue as Editor" of the official organ and Secretary' of the organization, respectively W S Ensign for some years has been doing a mail-order business in Ensign Remedies The Ensign Remedies, according to Ensign, are good for whatever ails you Apparently, there are about one thousand of them and they are known by numbers Ensign therapy is a comparatively simple study

A booklet issued by the Ensign Remedies Company lists all Diseases and Their Cure" These are arranged alphabetically from "Abdomen," Abortion" and "Abscess" through 'Ecchymosis,' "Eclampsia," 'Eczema" and "Iritis," 'Irritability," "Itch" to 'Worms ' 'Wrinkles" and Writers' Cramp" It is all very easy For Peritonitis, take '748A and B", for Alcoholism, 'Topers should use No 17", for Appendicitis, Use No 758A and B for the acute attack", for Diphtheria, No 675A and B is our specific treatment Do not use anti-toxin" Should you have Atrophy of the Optic Nerve, take "No 521A and B", for Cataract, No 504A and B" are indicated Yellow Fever calls for No 1066A and B' and Angina Pectoris for 342F" Bright's Disease is cured with '854A and B," but be sure you have the figures right as "No 857A and B" is for Floating Kidney For Lockjaw try 'No 34" and for Locomotor Ataxia No 260A and B" "No 1019A and B" are for Housemaid's Knee

But the Ensign Remedies are good for more than physical ailments, 'in the absolute cure of diseases of the mind nothing equals the Ensign Remedies" Are you troubled with Bashfulness," take No 186A and B", do you see Animals or Reptiles" (presumably of the pre-Volstead era) try No 187A and B' For Dullness and Stupidity, No 189 A and B", for Disappointment in Love, No 192A and B" For mere 'Laziness Lack of Ambition No 196A and B', should you have a Desire for Light and Company" take 'No 197A"

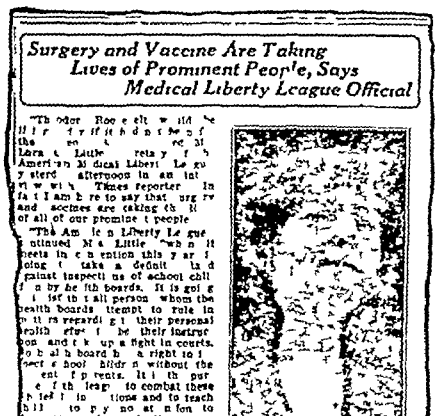
A few years ago the state officials of Michigan sent for some of Ensign's various cures and analyzed them and published the results in the official bulletin "Fakes and Frauds" Ensign's "Appendicitis Cure" was reported to show on analysis sugar 100 per cent , Ensign's 'Pneumonia Cure" was another 100 per cent sugar product, while Ensign's "Hay Fever Cure" had the same composition The Michigan authorities unkindly called attention to the fact that while these remedies sold at $1 00 each, their estimated cost was less than 1/10 of a cent It is only fair to state, however, that since these analyses were made the price of sugar has gone up

J W GRIGGS, Minneapolis, Minn Mr Griggs, was, if he is not still vice president of the "Anti-Vaccination League of America"

THE STATE VICE-PRESIDENTS

The 'League" also has 'State Vice-Presidents" In 1920 forty-five states were represented, in 1922 this list had dwindled to thirty-six This doubtless is an index of the waning interest in the "League" It would consume too much space to take up the various individuals whose names appear as state vice-presidents and publish the details on file regarding these persons However, it will not take much space to give a brief sketch as revealed by the Propaganda files of the State Vice-President of California, Dr George Starr White

GEORGE STARR WHITE, M D, F S Sc (Lond), Los Angeles Calif White who was the 'Second Vice-President" of the Allied Medical Associations in 1918, was graduated in 1905 when he was forty-two years old, by the New York Homeopathic Medical College and Hospital He seems to have been one of the proponents of Albert Abrams' 'spondylotherapy" and of Fitzgerald's 'zonetherapy," etc , and in 1915 it was announced that he would give one week courses to physicians in Spondylotherapy" at Chicago, Kansas City and Denver, respectively In May, 1915, White was arrested in Chicago


Surgery and Vaccine Are Taking Lives of Prominent People, Says Medical Liberty League Official

MRS LORA C. LITTLE

Reduced reproduction of part of a news story in a Davenport (Ia) paper relative to Mrs Little's appearance before the chiropractors Mrs Little was reported as stating that practically all newspapers are under the control of the medical trust

and fined $100 and costs for practicing medicine without a license Dr White's specialty seems to be picturesquely known as Bio Dynamo-Chromatic-Diagnosis" This is described by one of its enthusiastic adherents as 'Diagnosis by Sympathetic Vagal-Reflex" To obtain the 'Sympathetic Vagal Reflex it seems the patient must face east or west and have his bare abdomen percussed until a dull area is located The patient is then faced north or south and again percussed Then, it seems, different colored lights are thrown on the patient the location of the areas of dulness being determined meanwhile A combination of ruby and blue light "will

cause a reflex in cases of gonorrhea," a "green light will cause a reflex in cases of liver or gallbladder trouble," while the color for carcinoma is orange red! During the height of the influenza epidemic White took a flier in nostrum exploitation, putting on the market "Valens Essential Oil Tablets" which were for "Gripping the Flu out of Influenza," and were also said greatly to benefit or cure incipient tuberculosis, hay-fever, asthma, and "catar" (White affects simplified spelling) The letters "F S Sc, Lond," after Dr White's name carry with them an air of erudition and mystery that is well worth what they cost They mean "Fellow of the Incorporated Society of Science, Letters and Arts of London, Ltd" The "Fellowship" is held by not a few "patent medicine' exploiters in the United States It costs one guinea!

Here, then, we have brief sketches of those individuals who were mainly instrumental in bringing into existence the 'American Medical Liberty League" The facts brought out are sufficient to permit the physician and the intelligent layman properly to evaluate the activities of this organization which professes to have for its main object the protection of the public The "American Medical Liberty League" like its prototype, the "National League for Medical Freedom" will flare, sputter—and go out!

Correspondence

THE CASE OF WILLETTA HUGGINS

To the Editor —Now that Professor Jastrow has so ably disposed of the case of Willetta Huggins by stating that the medical profession has the "will to believe," there remain a few other questions to be disposed of

How does it happen that her case was diagnosed by the psychologic department of Wisconsin as "almost a moron"? Do any of the physicians who saw her in Chicago or Evanston think her a moron?

How does it happen that the psychologic department of Northwestern University has no instrument fine enough to determine her threshold of feeling?

How does it happen that she distinguished blue, yellow and green in a mixture of blue and yellow that to a normal eye appeared green only?

How does it happen that she distinguished between the streaks of pink and green feldspar? Her vision would seem to be abnormally acute instead of being, as every one admits, much below par since early childhood, if Professor Jastrow's explanation is correct

If she distinguishes light rays of different wave length by the sense of smell, how can she be expected to distinguish between light rays in the dark where there are no light rays?

Lastly, has not Professor Jastrow heard how the psychologic department of Cornell, and the rest of the faculty for that matter, were so taken in by an exposition of Freud and his theories, given by an agricultural student who had not heard of Freud a week before that they kept him talking an hour and answering questions for a longer time and were so enthusiastic over his exposition that they had him repeat the lecture? It really seems as if the medical profession had no monopoly of "the will to believe"

G W BOOT M D, Evanston Ill

THE DEATH OF JOHN SHELL

To the Editor —Fakes die hard, especially a fake which a veracious press is interested in keeping alive I exposed the John Shell "the oldest man in the world" fake, in a magazine article, in the New York *Sun* two years ago I showed then, through the census records, that Shell was less than 100 According to these records, which I obtained through the courtesy of Hon S L Rogers, director of the census, Shell's age in 1860 was given as 37 In 1870 his age was 48 In 1880, 58, in 1890, 67 In 1900 his age was 78, his birthday being given as May, 1822 I visited him in November, 1919 At that time I tried to verify the age, and saw his oldest son his great-grandson, his father-in-law, who was his nearest neighbor and knew him for more than fifty years, his lawyer of thirty years ago, an ex-judge who stopped at Shell's house in the early eighties, a physician who treated him the preceding winter, and the present circuit judge All agreed that Shell was about 100 His son and great-grandson said he was less than 100 The details of the scheme by which the exploiters of the old man made several thousand dollars by exhibiting the senile dement as the oldest man in the world have no medical interest aside from the production of an obsession through suggestion

I L NASCHER, M D, New York

DO AMERICAN INDIANS HAVE CANCER?

To the Editor —In THE JOURNAL, July 8, Dr Joseph Rilus Eastman discusses interestingly the subject of malignant growths I wish, however, to comment on his statement that our American Indians do not have cancer Here in the Southwest I have known fairly well one tribe of Indians They number about 500 During my residence of three years among them, three full-blood Indian men died of cancer, respectively, of the lips and mouth, of the throat and of the penis For the last eighteen months at Tucson I have had charge of another group of about 500 Indians During this time one of them, a woman of pure Indian extraction, died of cancer which destroyed the right orbit and adjacent tissues It seems to be the custom not to perform necropsies on Indians, and I believe that few, if any, have been performed If any considerable number of necropsies were performed, perhaps there would be disclosed occasionally a deep seated cancer

C G ANDREWS, M D, Tucson, Ariz

LETTER ON THE DEATH OF KEATS

To the Editor —The following extract from the letter of Joseph Severn, dated Rome, Jan 11, 1821, written in the sick-room of John Keats (whom Severn was nursing in his last illness) may prove of interest as showing how the Italian medical authorities viewed tuberculosis a hundred years ago

News was brought me the other day that our gentle landlady had reported to the police that my friend was dying of consumption Now their law is — that every individual thing even to the paper on the walls in each room the patient has been in shall without reserve be destroyed by fire the loss to be made good by his friends This startled me not a little for in our sitting room where I wanted to bring him there is property worth about £150, besides all our books etc —invaluable

J R CLEMENS, M D, St Louis

Mosquito Destruction by a Plant —According to investigations carried out by Dr Arturo Caballero, professor of botany in the University of Barcelona, in the summers of 1919-1920, *Stegomyia, Culex* and *Anopheles* larvae die in any water where the plant known as *Chara foetida* is found The larvae die quicker if they are young and those fresh from the egg do not last over an hour These laboratory experiments were later tried out in the field with the species *Chara foetida, Chara contraria* and *Chara hispida* Caballero suggested at first that the larvae died because of the film formed on the surface of the water by the plant in question, but further experiments showed that they also died if the film was removed He suggested therefore, that the death of the larvae is produced by some toxic substance segregated by the *Chara* plants The plant spreads rapidly in the water and seems to last indefinitely Dr Caballero has published several articles on this subject, one of them in the *Revista de Higiene y Tuberculosis* One of his early papers was recently reprinted by the Mexican Health Department

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted on request

MECHANICAL BUST DEVELOPERS

To the Editor—In catalogues of medical and surgical supplies one sees listed among standard cupping apparatus so called bust-developers consisting of a glass portion designed to fit the organ with a suction apparatus at the other end I assume that the supposed function of this apparatus is to bring about through hyperemia a permanent enlargement of the female breast For many years I have been investigating the general biology of secondary sexual characters of the organism and I should like to know whether there is any valid published evidence that the pieces of apparatus mentioned above can or do bring about any such a result as that suggested It seems to me on biologic grounds very doubtful I shall be greatly obliged if you will give me references to any pertinent literature If my assumption as to what these pieces of apparatus are made (and presumably old) for is wrong will you please tell me what their use and effect is? P

ANSWER—There is apparently no scientific evidence to indicate that the devices described actually induce growth of the organs concerned Rhythmic irritations of the lactating breast, as from a breast pump or by massage, will unquestionably stimulate the circulation of the breast with a possible increase of the flow of milk There is, however no procedure that will produce a localized development of fat, which is essential, if the procedure is to develop the breast, for plumpness of a breast lies in the fat contained therein In view of the lack of evidence as to the value of such devices their sale must be placed in the same category as the purveying of inert and useless remedies

ULCERS DUE TO CHROMIC ACID

To the Editor—I am called on to treat ulcers which originate in the men employed in producing dry colors in a nearby dye industry The ulcers are caused by chromic acid or chromium and its salts We shall be grateful if you can assist us SUBSCRIBER

ANSWER.—Lesions of the skin due to chromium are well recognized industrial dermatoses The following brief account of them is taken almost verbatim from Dr Prosser White's work, Industrial Dermatoses

All workers in free chromic acid and the chromates suffer after a time, unless the precautionary regulations are strictly enforced The chronic chrome dermatoses are (1) the subcuticular vesicle, (2) the sore, or hole, traumatic or follicular, (3) the granuloma and (4) the scar Chrome sores are usually situated at the roots of the nails the creases of the knuckles, and the hairy parts of the backs of the hands and forearms The skin between the fingers shows large numbers of skin-colored painless, subepidermic, pinhead elevations The web between the thumb and first finger is particularly susceptible to ulceration if any crack is present Previous laceration of the cuticle or the mouth of the follicles, however, always determines the site of the ulcer, which may be found on the wrist or arm the penis or the groin

A chrome hole always starts and takes its size and shape from the chip crack or opening in the skin in which it begins If the epidermis has been stripped, the sore retains the shape of the original wound (linear oblong etc) but as the hole deepens, the edges and angles become thickened and rounded If, on the other hand it begins from a follicle or a broken papule, it will most likely remain circular The sore gradually deepens, widens and soon extends to the derma Deep penetration with great thickening of the edge and less surrounding inflammation is characteristic The chrome hole is indolent and conical The size of the chrome hole ordinarily encountered varies from that of a hempseed to that of a bean When neglected, they become complicated by severe pyogenic infection, and large sloughs have been recorded Men can work in very weak solutions of chrome without showing any ill effects

The duration of a chrome sore, if not very deep, is about three weeks, provided the sufferer abandons work and is no longer in contact with the material If he should ignore the trouble and continue his duties it will last indefinitely Chrome holes are essentially a chronic condition, their onset being slow and insidious, and recovery equally tardy They always leave scars, which are usually quite distinctive

Another lesion observed in these "hands" is the septic granuloma It is prevalent in many occupations It results from a low and slow form of inflammation or irritation, usually the feeble but repeated activity of infecting organisms In these cases there may be little skin destruction or the wound closes prematurely and the inflammatory exudates are confined or only partially absorbed Edema, small-celled infiltration and debris remain to form a diffuse, nodular half pea sized and shaped projection

The only method of handling these cases successfully is to prevent them and prophylaxis by measures to prevent contact with chromic acid and its salts should be required in works where laborers may be exposed to these salts

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA Juneau Sept 5 Sec Dr Harry C DeVighne Juneau
MASSACHUSETTS Boston Sept 12 14 Sec Dr Samuel H Calderwood State House Boston
NEW HAMPSHIRE Concord Sept 7 8 Sec Dr Charles Duncan Concord

District of Columbia April Examination

Dr Edgar P Copeland, secretary, District of Columbia Board of Medical Supervisors, reports the oral and written examination held at Washington, April 8, 1922 The examination covered 8 subjects and included 80 questions An average of 75 per cent was required to pass Of the 11 candidates examined, 7 passed and 4 failed Four candidates were licensed by reciprocity The following colleges were represented

College	PASSED		Year Grad	Per Cent
George Washington University	(1921)	80 3	(1922)	85 1
Howard University	(1920)	81 6	(1921) 77 8	86 3 88 7
University and Bellevue Hospital Medical College			(1921)	81 1
FAILED				
Howard University	(1919)	73	(1920) 68	1, 70
College of Physicians and Surgeons Boston			(1921)	73 8

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Howard University		(1914)	New Jersey
Johns Hopkins University		(1917)	Maryland
Tufts College Medical School		(1914)	Virginia
University of Texas		(1916)	Missouri

Colorado January Examination

Dr David A Strickler, secretary, Colorado State Board of Medical Examiners, reports the written examination held at Denver, Jan 3 1922 The examination covered 8 subjects and included 80 questions An average of 75 per cent was required to pass Of the 8 candidates who took the physicians and surgeons' examination, 3 passed and 5, including 1 osteopath and 1 undergraduate failed Nineteen candidates were licensed by reciprocity The following colleges were represented

College	PASSED	Year Grad	Per Cent
Georgetown University		(1917)*	76 3
Eclectic Medical Institute		(1908)	75
University of Berlin		(1919)†	88 1
FAILED			
St Louis College of Physicians and Surgeons		(1918)	39 4
University of West Tennessee		(1918)	66 5
Jenner Medical College		(1903)	65 5
Undergraduate			68 4
Osteopath			72 6

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Bennett College of Eclectic Medicine and Surgery		(1906)	Illinois
Hahnemann Medical College and Hospital of Chicago		(1887)	Illinois
Rush Medical College		(1915)	Wisconsin
Kansas Medical College Topeka		(1903)	Oklahoma
University of Kansas		(1920)	Kansas
Harvard University		(1888)	Mass.
Tufts College Medical School		(1912)	Mas.
University of Michigan Medical School		(1902)	Michigan
Minneapolis College of Physicians and Surgeons		(1900)	Minnesota

Washington University	(1907)	(1911)	Missouri
Columbia University	(1896),	(1911)	New York
Cornell University		(1916)	New York
Cincinnati College of Medicine and Surgery		(1886)	Kentucky
Eclectic Medical Institute		(1892)	Nebraska
Jefferson Medical College		(1891)	Missouri
University of Texas		(1917)	Texas
University of Toronto		(1892)	New York

* Information received does not show graduation from any medical college

† Graduation not verified

Book Notices

LA LITHIASE BILIAIRE Par A Chauffard Second edition Paper Price 20 francs net Pp 247 with illustrations Paris Masson et Cie 1922

In thirteen chapters, which are really in the form of lectures, Chauffard covers fairly well the subject of gallstones —their pathogenesis, symptoms, complications, diagnosis and treatment He emphasizes the role of cholesteremia in their production, laying less stress than many on infection He analyzes minutely the various types of pain caused by the stones dwelling especially on the areas of cutaneous tenderness He devotes an interesting chapter to the elimination of gallstones by way of the intestine He gives detailed advice as to treatment, telling which cases he regards as suited for surgery, which for hydrotherapy and which for the more strictly medicinal management The book is not a complete textbook that one would consult as an encyclopedia of information on all phases of the subject, but it touches on nearly all the essential clinical features of gallstones, is rich in illustrative clinical cases, and is written in a style so lucid as to make the book not only readable but also entertaining

LES BASES ACTUELLES DU PROBLEME DE LA TUBERCULOSE Par Fernand Bezançon, Professeur a la Faculte de Medecine Paper Price 7 francs Pp 200 Paris Gauthier Villars et Cie 1922

This is one of a series of popular science works published under the title, "Science et Civilisation" It successfully presents to the general public the subject of tuberculosis as viewed by the best minds of the medical world Instruction in all phases of the tuberculosis problem is needed in France, in fact, the author, in the preface, gives as the raison d'etre of the treatise the need of acquainting his public with the facts about tuberculosis, the modes of infection, means of transmission, prophylaxis and treatment The book is addressed to physicians, nurses, social workers and laymen in general Attention is called to the seriousness of the problem from a social standpoint, and its importance as a national menace is made clear

INTERNAL SECRETION AND THE DUCTLESS GLANDS By Swale Vincent LL D D Sc M D Professor of Physiology in the University of London Second edition Cloth Price $8 50 net Pp 422 with 104 illustrations New York Longmans, Green & Co 1922

This book is a very helpful contribution to the difficult subject of endocrinology by an active and competent experimental worker in this field In this edition the portions dealing with clinical phases of the subject have been increased considerably, thus making the little volume more useful to medical students and practitioners Many of the illustrations are photographs of patients suffering from diseases of the organs of internal secretions

The chapters on the gonads, the thyroid, the parathyroids, the suprarenals, the pancreas, the hypophysis, and the specific interrelationship of these glands are the most satisfactory In the chapters on the gastric and intestinal mucosa the author seems unfamiliar with the recent American investigations showing that the 'secretin" of Bayliss and Starling and the "gastrin" of Edkins are artefacts or drugs, and not physiologic substances or hormones The author has deliberately left out all references to the original literature, a fact that diminishes the value of the book In the handling of experimental and clinical facts and speculations, the author is usually critical and conservative He says "If I have not been so optimistic and expansive in the treatment of certain topics as other writers on the same subjects, it is because I am convinced that a surer road to sound knowledge lies in the direction of rigid criticism and a reasoned skepticism'

THE PHYSICAL GROWTH OF CHILDREN FROM BIRTH TO MATURITY By Bird T Baldwin Director and Research Professor of Educational Psychology Cloth Price $3 75 Pp 411 with 24 illustrations Iowa City University of Iowa

This is the first of the University of Iowa Studies in Child Welfare, and is issued from the Iowa Child Welfare Research Station Nothing so complete or exhaustive on the subject has appeared in American literature, and it is doubtful whether any such complete report has appeared in a single volume in the literature of any other country The methods of examination are given in detail, and the results are amply illustrated by tables and charts Every phase of physical growth is taken up, even to strength tests of the different portions of the body An appendix gives a large bibliography

A MANUAL OF PHARMACOLOGY By Walter E Dixon M A M D B Sc Sometime Professor of Materia Medica and Pharmacology at King's College Fifth edition Cloth Price $6 net Pp 468 with 92 illustrations New York Longmans Green & Co 1921

This book is adapted primarily to the student in England, it is not suitable for use in America, as the U S Pharmacopeia names and the activities of the Council on Pharmacy and Chemistry are ignored As is common with many textbooks published in Great Britian proprietary names are used frequently to the exclusion of scientific terminology Hexamina (the British Pharmacopeia name for hexamethylenamine, U S P) and the proprietary "Urotropin" are employed interchangeably The unscientific name Antifebrin, long discredited in America is used by Dixon for acetanilid The revision of the book has been extensive, but at times carelessness is evident One notices that credit is not given others for research or statements, nor are references furnished It is the purpose of the author that the therapeutics in the manual shall serve only to illustrate the pharmacology, he has carefully refrained from creating a treatise on therapeutics or materia medica The material is presented in the commendable form of group treatment The work also includes the drugs brought out during the war, but is not as critical in their evaluations as it might be Tracings, chemical formulas and diagrams abound The subject-matter is presented in a direct, pleasing style, and the book work is excellent

TUBERCULOSIS IN INFANCY AND CHILDHOOD Lectures Delivered at the Children's Hospital Philadelphia under the Auspices of the Philadelphia Pediatric Society By J Claxton Gittings M D Professor of Pediatrics in the Graduate School of Medicine University of Pennsylvania Frank Crozer Knowles M D Professor of Dermatology in the Jefferson Medical College and Astley P C Ashhurst M D Associate Professor in Surgery School of Medicine University of Pennsylvania Cloth Price $5 Pp 273 with 22 illustrations Philadelphia J B Lippincott Company 1922

This work discusses the subject completely from all clinical standpoints, and contains much valuable practical information One of the striking features is a complete chapter on skin manifestations of tuberculosis, a greatly desired and needed contribution and one which comes rather as a surprise to the ordinary reader One could wish that many more illustrations had been added to the medical and dermatologic sections The detail of physical examination and findings in the discussion of the pulmonary involvements is especially exhaustive, as one would expect who has knowledge of the previous work of one of the authors

"Try for Links"—H Le Chatelier the professor of chemistry at the Sorbonne Paris, was recently presented with a gold medal on the completion of his fifty years of teaching and of service to France In his words of acknowledgment he addressed the young chemists present saying, "Try for links, only links Do not try to forge a whole cable at once Discoveries are made as one can, not as one wants to make them The fall of the Titans trying to scale Olympus is being constantly repeated as witness the last years of Sir William Ramsay and Schutzemberg for instance'

Medicolegal

Improper Evidence as to Agency of Nurse in Hospital

(Deming Ladies Hospital Association Price (U S) 276 Fed R 668)

The United States Circuit Court of Appeals, Eighth Circuit, in reversing a judgment for damages obtained by the plaintiff, Mrs Price, on account of her having been burned by metal hot water vessels while she was unconscious after an appendectomy, says that the case went to the jury on the issue of whether a nurse named Miss Schilling, alleged to have been negligent in the matter, was an agent or employee of the hospital That agency was sought to be established by what Miss Schilling herself had said and done The husband of the plaintiff was permitted to answer certain questions with reference to what Miss Schilling did in connection with the operation on his wife, and the facts that she was in attendance during the operation in the operating room and attended Mrs Price in her own room after the operation Mr Price then testified that neither he nor Mrs Price ever employed Miss Schilling as a nurse, and that he did not receive a bill from her for services He said that he saw her working in the operating room, suggested to her that she seemed to be pretty busy, and received the reply Yes, I am on general, and it keeps me busy' He was then asked Did you learn afterward from observation and experience, what 'on general' in a hospital meant? What does it mean?' The objections to this question should have been sustained The agency of Miss Schilling was not apparent, and it not only was not admitted, but was also denied Her statement was not shown to have been ratified Moreover, the testimony introduced, even if it had been admissible, would not have been sufficient to warrant the inference on the part of the jury that Miss Schilling was an agent or employee of the hospital The court thinks too that, in any view of the case, the jury should have been given the requested instruction that the agency of Miss Schilling could not be determined by her statements and her conduct There was also error, the court holds, in a refusal to give a requested instruction that the hospital was not liable because it was a charitable institution

Immaterial Irregularities in Procedure of Board Not Reviewable

(Minaker v Adams et al (Calif) 203 Pac R 806)

The District Court of Appeals of California, First District, Division 2, says that this was an appeal from a judgment of the superior court dismissing a writ of review and affirming all the proceedings of the board of medical examiners in revoking the appellant's license to practice medicine and surgery in the state The action of the board was taken after a hearing, duly and regularly had, on a complaint charging the appellant with having been guilty of unprofessional conduct in procuring a criminal abortion The appellant's contention was that, at the hearing, the board received considerable hearsay testimony and other evidence not admissible Reliance was placed on the case of *Thrasher* v *Board of Medical Examiners* 185 Pac 1006, because of its holding that hearsay evidence is inadmissible in a proceeding such as this one However, the only function of the writ of review in this case was to determine whether the board exceeded its jurisdiction, and the sole question reviewable by the superior court on the proceedings before it and by this court on this appeal was whether the board exceeded its jurisdiction in making the order complained of Conceding the fullest possible force and effect to the language of the Thrasher decision, and the consequent inadmissibility of some of the evidence received by the board in the instant case on the question of the pregnancy of the alleged pregnant woman at the time of her treatment by the appellant, there was, nevertheless, abundant proper evidence in the record that this condition existed This was to be found in the testimony in the coroner's office of the surgeon who performed the necropsy, and in the testimony of a physician who examined the woman when she was taken to a hospital This testimony eliminated any question that might arise, were there an entire absence of legal evidence in the record, as in the Thrasher case, and it conclusively established the jurisdiction of the board to make the order complained of Under such circumstances, any irregularity in the method of procedure in the matter of the admissibility of improper evidence will not be reviewed on a writ of review Wherefore, the judgment appealed from is affirmed

Burden on Plaintiff in Action for Malpractice

(Swat v Foster (Ga) 111 S E R 66)

The Court of Appeals of Georgia, Division 1, says that this was a renewal suit brought within six months of the dismissal of the original suit by the plaintiff's attorney The petition as amended stated among other things that on Sunday evening the petitioner's wife was taken ill The petitioner immediately called at the home of the defendant physician for the purpose of securing his services, but did not see the defendant until Monday morning, when the defendant visited the petitioner's wife, examined her, stated that she was in labor and gave her treatment After about an hour the defendant left, promising to return at 1 p m, but did not do so until about 5 p m, after the petitioner had been to his house at about 4 p m, and urged him to return to look after the patient On that visit he remained about thirty minutes, continued the treatment, and stated that the child would be born in an hour The defendant did not return again, and the petitioner charged that so leaving was an act of gross carelessness and neglect of the patient, who died the next day The petitioner also alleged that his wife was not in labor at all at the time the defendant waited on and treated her, but that her illness was gastritis What was designated as Paragraph 11 of the petition read "Petitioner alleges and charges that the death of his wife was due to the unskilful diagnosis and treatment by defendant as a medical practitioner and to the gross carelessness and neglect in his treatment and handling of said wife's illness' The defendant interposed a general demurrer to the petition, and a special demurrer to Paragraph 11, asking that said paragraph be stricken out because the allegations thereof were vague and indefinite and were conclusions of the pleader

It is well settled, the court goes on to say, in affirming a judgment for the defendant, that, in a suit for damages alleged to have been caused by the malpractice of a physician, the burden is on the plaintiff to show a want of due care, skill or diligence, and also that the injury resulted from the want of such care, skill or diligence Conceding, but not deciding that the petition in the instant case established a want of due care, skill or diligence on the part of the defendant, it was not shown that this negligence was the cause of the death of the plaintiff's wife, Paragraph 11 of the petition having been properly stricken out on the special demurrer interposed The trial court did not, therefore, err in dismissing the suit on general demurrer

Award to Physician for Sprain Held Excessive

(Lebrecht United Railways Co (Mo), 237 S W R 112)

The Supreme Court of Missouri, Division No 2, in reversing a judgment for $12 500 damages that was rendered in favor of the plaintiff a physician, for a sprain of the sacroiliac joint, says that the sudden starting and the closing of the door of one of the defendant's cars, while he was in the act of boarding it, caused him to fall and suffer the injury in question He was not confined to his bed immediately, but, the pain increasing, he went to a hospital, where he remained ten weeks An extension splint and weights were used to pull his leg and take the pressure away from his hip He used crutches for three months after he left the hospital For a while, he was not able to resume the practice of medicine, with the exception of seeing a few patients at his house

It was more than four months after the accident before he went to the office Prior to the accident, he had earned $6,000 or $7,000 a year He was unable to state what his earnings had been subsequent to his injury without referring to his books, but was permitted to approximate his earnings by stating that, until four or five months before the trial, which occurred about two years after his injury, his income had been about 50 per cent of what it was prior to the accident His physician's fee was $150, and his hospital bill a like amount He was 61 years of age The physician who attended him at the hospital said the condition caused intense pain, that one so affected is troubled a long time with it, but he could not state definitely that the injury was permanent In practicing his profession, the plaintiff would not be able to make visits as easily as before A physician who testified for the defendant stated that he made an examination of the plaintiff about nine months after the accident, and found nothing objectively wrong with him, but, on manipulation of the parts on the left side in the region of the back and of the pelvis, he complained of pain This instruction was given the jury

If the jury find for the plaintiff they should assess his damages at such sum as they may believe from the evidence will be fair compensation to him first for any pain of body or mind which the jury may believe from the evidence he has suffered or will hereafter suffer by reason of his injuries and directly caused thereby including permanent injury (if any) second for any loss of earnings in his profession which the jury may believe from the evidence he has sustained or will hereafter sustain by reason of his injuries and directly caused thereby and third for any expense necessarily incurred for medical attention, not exceeding the sum of $150 for hospital bills and $150 for medical care which the jury may believe from the evidence the plaintiff has incurred by reason of his injuries and directly caused thereby You will render a verdict if you find for the plaintiff in an aggregate sum

This instruction the court holds, was not subject to objection, if based on proof sustaining same, but in the instant case it was unauthorized in the absence of such proof, the testimony not being sufficient to sustain an instruction in regard to damages based on proof of permanent injury As has been said, in effect, in numerous cases consequences which are contingent, speculative, or merely possible are not to be considered To justify a recovery for apprehended future consequences, there must be such a degree of probability of their occurring as amounts to a reasonable certainty that they will result from the original injury To say of a thing that it is permanent means that it will continue regardless of a contingency or fortuitous circumstance Furthermore, under the evidence the assessment of damages was excessive, and, without additional evidence, it would authorize the reversal and remanding of this case On this account therefore, and because the trial court in the instruction on the measure of damages authorized the jury to take into consideration the permanency of the plaintiff's injury in the absence of evidence to sustain the same, the cause was reversed and remanded

Power to Defer Judgment Revoking License

(Shoults v Alderson et al (Calif) 203 Pac R 809)

The District Court of Appeal of California, First District, Division 2, says that the appellant, who had been licensed to practice as a "doctor of naturopathy," was, in May, 1918, served with complaint and citation under the provisions of the medical practice act The complaint charged that he had been guilty of unprofessional conduct under said act in affixing to his name certain letters indicating that he was entitled to practice the system or mode of treating the sick or afflicted for which he was not licensed The citation required him to appear before the board for a hearing, June 25 He filed an answer in which he admitted having used the abbreviations 'M D" after his name on his professional cards and stationery and on a sign in front of his office, but alleged that he did so because he had received the degree from a legally chartered medical college of the state of Illinois and he believed he had a right to use this degree after his name, that he had never practiced or held himself out as practicing any art of healing other than "naturopathy" At the hearing he appeared by counsel and in person and admitted the use of the suffix complained of, whereupon he was found guilty of unprofessional conduct as charged in the complaint His attorney stated that he was willing to discontinue the use of the suffix to his name and asked that the board consider that fact and dismiss the proceedings The matter was then discussed and the suggestion was made that judgment be deferred, or that he be put on probation for thirteen months The motion was that he be put on probation for thirteen months When later it was brought to the attention of the board that he had violated his promise and was using the suffix "M D" on his stationery prescriptions and labels for bottles, the secretary of the board wrote to him stating that further hearing in the matter of the revocation of his license would be placed on the calendar for June 24, 1919 On that date, he appeared before the board in person and represented by an attorney and he admitted that he had used stationery on which was printed his name with the suffix M D" Testimony was also given by another witness of further violations by the appellant, in this particular, of the medical practice act On such a showing, the board voted unanimously to revoke his license In inflicting this penalty, the board was merely pronouncing the deferred judgment which it was empowered to render at the first hearing, and this court finds no grounds for the reversal of the judgment of the lower court, which affirmed the proceedings of the respondents acting as the board of medical examiners The board acquired jurisdiction of the appellant and of the subject-matter by the procedure prescribed in the medical practice act and it had power to continue its hearing and finally to inflict the penalty

The appellant contended that because the chairman in stating the motion, did so inaccurately, his language was to be looked to for the sense of the motion carried by the board and that the motion carried by the board was a judgment placing the appellant on probation for thirteen months, which would be a penalty unauthorized by the medical practice act But the court thinks that the power of the board to inflict such a penalty on one found guilty of unprofessional conduct was not a question presented on this appeal that the motion carried by the board was that judgment be deferred for thirteen months, which was the motion seconded, and heard by all members of the board who were present, it being plain from the entire discussion that such was the motion intended to be carried and that was carried This motion was not a final order or judgment, it was merely an order deferring the final judgment for a specified time Assuredly under the general powers given to the board by the medical practice act it would have implied power to continue its hearings from day to day or for any longer period which seemed to it convenient or desirable under the circumstances Such power would be indispensable to the successful functioning of the board in the method provided in the act and would consequently be implied, if not expressed therein Furthermore, the appellant expressly consented to such continuance

A hearing was denied by the Supreme Court of California

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Oto-Laryngology Minneapolis Sept 19 23 Dr Luther C Peter 1529 Spruce St Philadelphia Secy

American Association of Obstetricians Gynecologists and Abdominal Surgeons Albany N Y Sept 19 21 Dr James E Davis 111 Josephine Ave Detroit Secretary

American Electro Therapeutic Association New York Sept 19 22 Dr A Bern Hirsh 71 W 94th St New York Secretary

American Roentgen Ray Society Los Angeles Sept 12 16 Dr H E. Potter 122 S Michigan Ave Chicago Secretary

Missouri Valley Medical Society of the St Joseph Mo. Sept 21 22 Dr Charles W Fassett 115 E 31st St Kansas City Mo Secretary

Utah State Medical Association Salt Lake City Aug 31 Sept 2 Dr W L Rich Boston Bldg Salt Lake City Secretary

Washington State Medical Association Tacoma Sept 5 6 Dr C H Thomson 508 Cobb Bldg Seattle Secretary

Wisconsin State Medical Society of Green Lake Sept 6 8 Dr Rock Sleyster Wauwatosa Secretary

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Obstetrics and Gynecology, St Louis

June 1922 3 No 6

Physiology Basis of Future Gynecology G G Ward New York City —p 573
Ovarian Function W P Graves Boston —p 583
Application of Metabolism Studies of Fetal and Neonatal Periods of Life H Bailey New York City —p 591
Teratoma of Ovary M F Porter Fort Wayne Ind —p 600
Congenital Malformation of Female Genitalia P J Reel Columbus Ohio —p 604
Method of Keeping Fallopian Tubes Open W T Kennedy, New York City —p 607
Is Conservative Obstetrics to Be Abandoned? W C Danforth Evanston Ill —p 609
Device for Aseptic Intrauterine Manipulations F C Hendrickson Cincinnati —p 617
*Treatment of Cardiac Failure During Pregnancy H E B Pardee, New York City —p 620
New Hydrostatic Bag for Induction of Labor G H Lee Galveston Texas —p 628
*Unusual Case of Extrauterine Pregnancy J W Riley Oklahoma City —p 630
Pelvic Hematocele from Causes Other Than Ectopic Pregnancy J W Bovee Washington —p 634

Ovarian Function—Graves sums up his paper by stating that ovarian therapy is valuable in treating the hot flushes of the artificial and natural menopause It has an uncertain but nevertheless unequivocal effect on certain dysmenorrheas The same may be said of its influence in cases of amenorrhea, delayed menses, clotting menstrual headaches etc An increasing number of cases seem to prove that it may stimulate fertility Even at its best the action of ovarian extract is uncertain and excepting in occasional brilliant instances rather feeble Outside its specific relationship to the reproductive functions, the influence of ovarian substance on the rest of the bodily organism is slight

Prevention of Premature Births—In order to prevent premature births, Bailey says, the care of the prospective mother must include a reduction of her manual work during the last month of pregnancy and the insistence on a dietary regimen composed largely of carbohydrates The high death rate in the neonatal period must be looked on as preventable to a certain extent and provision of the energy requirement of the new-born is the first step in that direction Bailey suggests that in maternity hospitals the new born be turned over to the pediatrician Obstetricians have been carrying this appalling death rate in the neonatal period with little concerted effort toward its reduction, because it is relinquished to men better trained in pediatrics

Teratoma of Ovary—Several points of interest are stressed by Porter in his recital of a case First, the enormous size of the ovarian cysts without the patient's knowledge or suspicion that anything serious was wrong with her Second complete functioning of the ovaries, including pregnancy occurring in the presence of bilateral ovarian teratomas, child carried beyond term, born naturally but dead Third development of a paratyphoid infection during the puerperium

Absence of Uterus and Vagina—Reel's patient was a young woman presenting in every respect typical feminine characteristics in external physical development while the internal genital tract revealed an absence of one tube, the uterus and the vagina That rudimentary structures found on the right side at times endeavored to undergo some menstrual change seems logical since she has been entirely free from attacks of periodic pain in this region since their removal by operation

Keeping Fallopian Tubes Open—Kennedy uses Cargile membrane hardened in alcohol for at least forty-eight hours, threading it through the fallopian tubes and the cavity of the uterus to keep these tubes open both into the uterine cavity and into the peritoneal cavity The membrane is flexible and strong, nonirritating to the contact tissues and is slowly absorbed giving all raw surfaces time to heal and allowing this part of the genital tract to remain patent He urges greater use of this membrane

Device for Aseptic Intra-Uterine Manipulations—Hendrickson has developed an apparatus and a method which he believes makes possible an almost perfect asepsis in performing any of the ordinary obstetrical manipulations except the cutting operations There need be no fear of infecting a parturient woman such as by a manual removal of adherent placenta even though the woman should have a suppurating bartholinitis

Treatment of Cardiac Failure During Pregnancy—The important feature of a patient with heart disease during pregnancy Pardee says, is the degree of cardiac failure If this is slight the disease is of little importance Even with a moderate degree of failure it will be possible for the child to be born if the mother is allowed to take a risk which is not so great as sometimes stated The first attack of severe decompensation can usually be recovered from with proper treatment unless the attack should occur during labor With proper observation and prompt operation severe decompensation should not occur during labor Abdominal section is the operation of choice in the emergency provided a low forceps cannot be done Ether anesthesia started by chloroform is a better anesthetic for these patients than gas-oxygen Oxygen inhalations from a mask are helpful to clear up a persistent cyanosis Without severe cardiac failure or after recovery from it most patients can be carried through to term or to an induced labor during the eighth month During labor, one should watch for a pulse over 95 or respiration of more than 25 per minute precordial discomfort, dyspnea, cough and not let these little signs become big before putting an end to the labor In treating lesser grades of failure during pregnancy the patient must rest enough to spare the heart from overstrain but this may not necessitate rest in bed for more than a short time Digitalis should be given in doses sufficient to insure an effect With this treatment Pardee feels sure it will be possible to diminish the present mortality of about 25 per cent for severe cases and 10 per cent for all cases to a figure which is less disquieting

New Hydrostatic Bag for Induction of Labor—Lee claims that his bag combines the two desirable features of the Barnes and the Champetier de Ribes and Voorhees bags, i e dilating the cervical canal and supplying an efficient foreign body within the lower zone of the uterus to excite uterine contraction

Retained Extra-Uterine Pregnancy—Riley's patient had the usual signs of pregnancy and felt the fetal movements These without the usual evidence that accompanies tubal rupture suddenly ceased between seven and one-half and eight months of the pregnancy Outside of the presence of an abdominal tumor she enjoyed good health and one year subsequently, gave birth to a full term living child Her pregnancy and labor were normal in every way She subsequently gave birth to four children, two of whom were born dead There was no history of any abnormality during these pregnancies or labors On admission to the hospital, she complained of frequent urination and the presence of an abdominal tumor the size of a croquet ball firmly attached to the left of the uterus causing considerable pain on examination It was fixed and immovable It was rather irregular and hard like a myoma No crepitus was elicited Rectal examination was very painful and the mass felt irregular to the examining finger At the operation the mass was found to be in the left broad ligament On cutting into the mass it proved to be a cavity from which a very foul odor emanated The sac contained the bones of the fetus and a large amount of foul smelling milky colored fluid The bones of the fetus were entirely clean of all tissue It measured 17 inches in height and apparently represents the size of a fetus at seven and one-half or eight months' pregnancy

American Journal of Physiology, Baltimore

June, 1922 **61**, No 1

Amino-Acids in Nutrition V Nutritive Value of Edestin (Globulin from Hemp Seed) Cystin and Lysin as Growth Limiting Factors in That Protein B Sure Fayetteville Ark —p 1

*Studies on Visceral Sensory Nervous System XIII Innervation of Cardia and Lower End of Esophagus in Mammals A J Carlson, T E Boyd and J F Pearcy Chicago —p 14

*Blood Anticoagulant Obtained from Body Tissues Its Chemical Nature and Its Manner of Action C A Mills G Mynchenberg G M Guest and S Dorst Cincinnati —p 42

Action of Ultraviolet Rays on Starfish Eggs R S Lillie and M L Baskerville Cleveland —p 57

Action of Ultraviolet Light on Egg Albumin in Relation to Isoelectric Point J H Clark Baltimore —p 72

Physiologic Role of Intestinal Mucosal Movements C E King L Arnold and J G Church Nashville Tenn —p 80

Pseudoparadoxic Pupil Dilatation Following Lesions of Afferent Paths J Byrne New York —p 93

Latent Periods in Reciprocal Action of Antagonistic Muscles J M D Olmsted and W P Warner Toronto —p 106

*Origin and Conduction of Cardiac Impulse VIII Permanent Rhythm Following Destruction of Sino Auricular Node J A E Eyster and W J Meek Madison Wis —p 117

*Id IX Sinoventricular Conduction J A Eyster and W J Meek Madison Wis —p 130

I Determination of Plasma and Hemoglobin Values After Unit Hemorrhages Under Controlled Experimental Conditions E B Carrier F W Lee and G H Whipple San Francisco —p 138

II Simultaneous Determinations of Plasma and Hemoglobin Volumes Influence of Fluids by Mouth and Vigorous Exercise F W Lee E B Carrier and G H Whipple San Francisco —p 149

Mechanism of Regulation of Intra-abdominal Pressure H C Coombs New York —p 159

Height of Center of Gravity in Man M I Croskey P M Dawson A C Luessen I E Marohn and H E Wright Madison, Wis —p 171

Effect of Plethora and Variations in Venous Pressure on Diastolic Size and Output of Heart W J Meek and J A E Eyster Madison Wis —p 186

Innervation of Cardia—A method is described by Carlson et al permitting continuous recording of the tonus and contractions of the cardia in acute experiments and in animals provided with a permanent gastrostomy and esophageal fistula

Blood Anticoagulant in Body Tissues—Whereas normal lung tissue yields a globulin which is a very active blood coagulant, lung tissue dried at room temperature and thoroughly extracted with benzene at this same temperature yields a globulin possessing a very strong anticoagulant action This anticoagulant globulin appears to contain no phosphorus in its protein molecule The globulin fraction from various tissues was found by Mills et al to be capable of yielding this anticoagulant protein, there being no apparent specificity even for widely divergent species The strongest anticoagulant for any blood was obtained from turtle liver The anticoagulant action of the globulin is readily destroyed and an active coagulant formed by the proper addition of cephalin The conclusion is justified that this protein owes its anticoagulative action to its high cephalin combining power

Origin of Cardiac Impulse—The experiments reported by Eyster and Meek comprise a study of the changes in cardiac rhythm for periods of days or weeks following ligation or excision of the sino-auricular node in dogs Disturbance of the normal rhythm, as manifested by a reduction in cardiac rate, a reduction in the As-Vs interval and frequently other changes, invariably results The facts obtained tend to substantiate the paramount importance of the sino-auricular node as the seat of origin of the cardiac impulse in the normal animal They further indicate the ability of this structure to function, even though subject to considerable injury and partial isolation, if sufficient time for recovery is allowed A study of the cardiac acceleration preceded by muscular exercise and by vagus paralysis under atropin administration, before and after excision of the sino-auricular node lends further evidence to the view that it is on this structure that the vagus produces normally its greatest chronotropic influence and through which the normal acceleration in muscular exercise is in large part brought about

Sinoventricular Conduction—New experimental evidence is presented by Eyster and Meek which they believe tends to substantiate the view previously stated, that conduction of the excitation from its origin in the sino-auricular node to the right atrium and auriculoventricular node respectively, occurs normally by separate paths This evidence is the occurrence of auriculoventricular dissociation in dogs after partial isolation of the sino-auricular node

American Journal of Roentgenology, New York

June 1922 **9**, No 6

Mode of Radiation on Carcinoma J Ewing New York —p 331

*Case of Epithelioma of Cornea D Y Keith and J P Keith, Louisville Ky —p 337

A Simple Pass Box C B Reed New York —p 340

Underlying Principles in Radiotherapy of Malignant Tumors H Holfelder Frankfort on the Main Germany —p 341

Pyelitis of Pregnancy I M Hodges, Richmond Va —p 352

*Failures After Gastro-Enterostomy Turned to Success by Knowledge Furnished by Roentgen Ray Examination A H Pirie Montreal Can —p 358

Rickets Review of Recent Literature R G Giles Boston —p 360

High Tension Electric Shocks in Roentgenologic Practice W F Hemler Washington D C —p 365

New Immobilizing Device C M Ming Okmulgee Okla —p 370

Standardization of Measurement of Tuber Potential F Rieber San Francisco —p 371

Method for Roentgen Ray Demonstration of Nasolacrymal Passageways D M Campbell J M Carter and H P Doub Detroit —p 381

Epithelioma of Cornea—The Keiths believe that the application of radium to tumors of the cornea or the bulbar conjunctiva far excels operative procedure In their case they used 42 mg hours to each half of the eye There have been no ill effects

Pathology of Pyelitis of Pregnancy—The true pathology of the condition is graphically demonstrated by the pyelograms made by Hodges, and consists mainly of dilatation of the renal pelvis and dilatation and kinking of the ureter The dilatation varies greatly The lesser and medium grades will entirely recover, but the more severe grades with atony of the pelvic musculature only partially recover The colon bacillus is usually the infecting organism, but others may occasionally be primary or engrafted on the colon infection The early diagnosis and treatment of pyelitis of pregnancy may be the means of avoiding serious, if not irreparable damage to the kidney Pelvic drainage and lavage is of marked value adding little, if any, risk when properly done

Cause of Vomiting After Gastro-Enterostomy—Vomiting continuing for weeks after a gastro-enterostomy, Pirie states, is usually due to retention of food in the stomach The gastric delay is due to the stoma being placed too far from the pyloric end Roentgen-ray examination not only may disclose the cause, but provide the remedy The first case of vomiting after every meal for three months following gastro-enterostomy was cured by lying on left side after meals Second similar case was cured by lying on left side and rolling over a pillow on stomach

Annals of Surgery, Philadelphia

June 1922 **75**, No 6

Tumors of Breast C H Peck and W C White New York —p 641

Papillary Cystadenoma of Male Breast V C David Chicago —p 657

*Improved Method of Skin Grafting A D Parce —p 658

Serum Treatment of Anthrax Septicemia D Symmers New York —p 663

*Peritonitis as Complication of Prostatectomy H J Vanden Berg and W J Butler Grand Rapids Mich —p 668

Sciatic Hernia J E Summers Omaha Neb —p 672

Spontaneous Lateral Ventral Hernia J K Holloway Philadelphia —p 677

Low Transverse Incision in Operations on Thyroid W S Schley New York —p 686

Extracranial Aneurysm of Internal Carotid N Winslow, Baltimore —p 688

Case of Bullet Wound of Femoral Artery and Vein Successfully Treated by Ligation of Artery and Vein and Extirpation of Injured Segment G P LaRoque Richmond Va —p 705

Value of Dakin's Solution in Treatment of Acute and Chronic Osteomyelitis A O Wilensky New York —p 708

Spiral Fracture of Tibia and Fibula J A Caldwell Cincinnati —p 717

Volvulus of Sigmoid G L Hays Pittsburgh —p 724

*Value of Blood Pressure in Acute Cerebral Compression J Y Malone St Louis —p 732

Papillary Cystadenoma of Male Breast—David's patient was 82 The tumor in the breast was first noticed fifteen years previously Twelve years ago the tumor and nipple were removed One year later there was a recurrence [illegible]

general health of the patient was good The microscopic diagnosis was recurrent papillary cystadenoma of the ducts of the breast David urges that in such cases the entire breast be removed

New Method of Skin Grafting—The technic of the method employed by Parce consists in the usual preliminary preparation and the use of the same instruments that one would employ if he were doing a simple Thiersch graft plus the addition of sterile dental modeling composition With two basins of sterile water—one hot and one cold—conveniently at hand, the dental composition is first softened in the hot water and then molded over the surface to which the graft is to be applied and finally placed in the cold water to harden A full thickness autoplastic graft through the dermis into the subcutaneous plexus, but devoid of fatty tissue, is removed with a razor in the ordinary manner turned inside out over the impressioned surface of the composition and held under tension against it by means of fine catgut sutures used to approximate the free edges of the graft across the blank surface of the composition It may take several grafts before the surface of the mold is covered in the desired fashion The skin edges about the area to which the graft is to be applied are slightly undercut so that the margins of the composition with the graft overlying them will slip under these edges The graft is now placed in position and adjusted, this adjustment being made more accurate by applying a compress soaked in hot saline to the composition for a moment slightly softening it when firm pressure will permit such readjustment as is necessary in the composition after the skin has been applied over it The skin margins surrounding the area made free by undercutting are now sutured with fine catgut to those portions of the graft in apposition to them which step serves the double purpose of holding the graft in position and at the same time helps to maintain tension on it A copious dressing with a firm bandage is then applied over the whole area and left undisturbed for a period of eight to ten days, when the sutures holding the graft to the mold are cut, the edges of the composition gently lifted so as not to disturb the graft and finally the whole mold is removed, leaving the epidermized surface beneath

Peritonitis Complicating Prostatectomy—Vanden Berg and Butler report a case of prostatectomy complicated by a fatal peritonitis due probably to soiling of the peritoneum following its accidental opening in enlarging the suprapubic wound They failed to find a similar case on record

Blood Pressure in Cerebral Compression—Clinically, blood pressure compensation following increased intracranial pressure Malone states is a valuable criterion of the degree of cerebral compression when the pupils react to light but is of no service when they do not A sluggish or absent reaction of the pupils to light indicates a grave prognosis and no time should be lost in relieving the cerebral compression A good rule is not to decompress a patient if the blood pressure is falling or is below normal This is evidence that the last stage of compression has been reached and that the medullary centers are exhausted and can no longer compensate

Archives of Internal Medicine, Chicago

June 1922 29 No 6

Pigment Metabolism and Regeneration of Hemoglobin in Body G H Whipple Rochester N Y —p 711
*Ochronosis with Study of Additional Case B S Oppenheimer and B S Kline New York —p 732
Aids to Basal Metabolic Rate Determinations H S Newcomer Philadelphia —p 748
*Nature of So Called Capillary Pulse E P Boas New York —p 763
*Etiology and Development of Glomerulonephritis E T Bell and T B Hartzell Minneapolis —p 768
Biochemical Studies in Fatal Case of Methyl Alcohol Poisoning I M Rabinovitch Montreal —p 821
Reversed Rhythm of Heart M H Kahn New York —p 828
*Paroxysmal Rapid Heart Action with Special Reference to Roentgen Ray Measurements of Heart In and Out of Attacks S A Levine and R Golden Boston —p 836
Study in Experimental Diabetes H E Landes L E Garrison and J J Moorhead Chicago —p 853

Ochronosis—The diagnosis of ochronosis was made by Oppenheimer and Kline in their case (the forty-first on record) because of the bluish discoloration of the cartilages of the ears and skin of the axillae, the pigmentation of the sclerae and the excretion of a dark urine becoming black on standing In addition the patient had a deforming arthritis of the spine and larger joints and a mitral endocarditis complications frequently present in ochronosis Examination of the urine was repeatedly negative for alkapton body The pigment obtained from the urine, from a costal cartilage and that from the prostate of the case gave the reactions for melanin The pigment from these three sources had similar characteristics The chemical findings are in accord with the belief that ochronosis is dependent on a disordered metabolism of phenol derivatives As in the cases previously reported the cartilages (costal, tracheal, bronchial, auricular and xyphoid) and fibrocartilages (intervertebral disks) are deeply pigmented (bluish black) Large stony masses of bluish pigmentation are found in the prostate and prostatic urethra The kidneys show extensive pigmentation The endocardium intima of the aorta and coronary arteries, skin and sclerae are less intensely pigmented The pigment is not deposited in any quantity in intact intima and endocardium but in areas of degeneration in these structures, however macroscopic deposits occur Diffuse ochronotic pigment is present in albuminous masses (renal casts) and concretions (corpora amylacea of prostate) Fine pigment granules are present in the epithelium of proximal convoluted tubules, and coarser granules are present in the cells of the ascending loops of Henle, distal convoluted tubules and the collecting tubules The pigment is predominatingly diffuse in the matrix of the cartilage and fibrocartilage and when associated with albuminous masses and concretions It is predominatingly granular in perichondrium, periosteum, tendons, fascias connective tissue and in certain renal cells It is present in diffuse and granular forms in injured and degenerated areas The histologic picture in the kidney sections suggests excretion of the pigment by the cells of the proximal convoluted tubules The picture likewise suggests a partial reabsorption of the fine pigment by the cells of the loops of Henle distal convoluted tubules and collecting tubules, and a transformation of the pigment into a more granular form

Nature of Capillary Pulse—Boas claims that the so-called "capillary pulse is not a manifestation of a pulsation of the capillaries but is due to an exaggerated pulsation of the arterioles and possibly of the venules of the subpapillary plexus of the skin In view of this fact it would be well to discard the term 'capillary pulsation and to speak of the systolic flushing of the skin

Studies of Glomerulonephritis—Thirty-two cases of acute glomerulonephritis were studied by Bell and Hartzell In many of these cases death was due to extrarenal causes and early glomerular lesions are available for study Degenerative exudative and proliferative types of inflammation occur in the glomeruli Proliferative changes are chiefly responsible for permanent glomerular damage Acute glomerulonephritis is nearly always due to some acute infectious process usually a streptococcal infection The bacteria gain access to the blood and it is probable that the injury is produced by the direct action of their bodies on the glomerular endothelium An occasional case of acute glomerulonephritis passes into the chronic form, but the great majority of chronic cases do not begin as frankly acute nephritis Acute glomerulonephritis is linked with the chronic form by numerous intermediate cases Glomerular lesions in chronic kidneys correspond to healing or healed stages of acute glomerulitis Old epithelial crescents are common, and disintegrating polymorphonuclear leukocytes are frequently found in the closed glomerular capillaries and in the partially atrophied tubules In a few chronic cases acute and subacute glomerular lesions were found, indicating acute exacerbations In chronic glomerulonephritis many glomeruli are obliterated completely and those persisting show permanent closure of a part of the capillary network Function is carried on by damaged glomeruli, and is depressed not only because of reduction in the total number but also because of the reduced capillary network in those that persist The progressive nature of chronic glomerulonephritis is apparently due in part to repeated acute exacerbations All forms

of glomerulonephritis are due directly to bacterial invasion of the glomeruli, and the various clinical and pathologic types depend on the degree and extent of the permanent glomerular injury

Methyl Alcohol Poisoning—In a fatal case of methyl (wood) alcohol poisoning studied by Rabinovitch changes had occurred in the renal and other functions as evidenced by variations from the normal chemical composition of the blood These, in themselves, disregarding other well known factors, may account for the actual cause of death Methemoglobin played no important part in the production of the cyanosis noted Methyl alcohol could be detected in the tissues examined six days after the ingestion of the drug

Reversed Rhythm of Heart—Kahn emphasizes the distinction that should be made between the terms "reversed mechanism and reversed rhythm" of the heart The "term reversed mechanism" should be confined to express a reversal of the mechanism of impulse formation and conduction The term "reversed rhythm," on the other hand, does not attempt to interpret the direction of stimulus conduction It expresses only a time relationship between the ventricular and auricular contractions, i e, the ventricular beat immediately precedes the auricular beat This includes not only the cases of reversed mechanism, but also those cases in which the mechanism is normal, yet in which the ventricular contraction is delayed and, therefore, is grouped together with the following auricular contraction In these cases, the auriculoventricular node discharges its impulse, in point of time, ahead of the sinus node, yet without reversal of the mechanism

Roentgen-Ray and Blood Pressure Studies of Heart Action—Roentgen-ray examinations and blood pressure studies were made by Levine and Golden on eleven patients with paroxysmal rapid heart action Five had paroxysmal auricular tachycardia, three had paroxysmal ventricular tachycardia, one had paroxysmal auricular flutter and two had paroxysmal auricular fibrillation Observations were made during the attacks and while the heart was beating normally It was found that in eight cases no appreciable dilatation of the heart occurred, in two it was definite but slight and in one it was considerable These results indicated that in ten out of eleven cases it would have been impossible to detect with any certainty by percussion and palpation a change in the size of the heart In seven of the cases blood pressure readings showed that the systolic pressure was apt to fall and the diastolic pressure to rise, resulting in a low pulse pressure which in rare instances became very small, i e, 8 mm This low pulse pressure may explain some of the symptoms that occur during the severe attacks It is suggested that the amount of dilatation and the decrease in pulse pressure are dependent on three factors, the duration of the attack, the rapidity of the ventricles during the attack and the state of health of the heart before the attack occurs In several cases a leukocytosis, even as high as 20 000 and a temperature of 100 F developed with the attacks and quickly subsided as the heart returned to normal

Arkansas Medical Society Journal, Little Rock

June 1922 **19** No 1

Value of Hot Springs Baths in Treatment of Chronic Malarial Infections W T Wootton and G E Tarkington—p 1
Cesarean Delivery Report of Cases G E Cannon Hope—p 2
Chronic Patient H Thibault Scott—p 4
Disease J T Clegg Siloam Springs—p 6

Georgia Medical Association Journal, Atlanta

May 1922 **11** No 5

Kidney Study J P Proctor Athens—p 169
Disorders of Stomach Few Facts Fallacies and Figures. C W Roberts Atlanta.—p 174
Precaution in Goiter Surgery T C Thompson Vidalia—p 178
How to Restore Muscle Power in Paralytic Conditions T Toepel Atlanta—p 182
Gallbladder Disease W H Lewis Rome—p 184
Gastric and Duodenal Ulcer J C Johnson, Atlanta—p 186
Size, Shape and Position of Stomach in Diagnosis C D Cleghorn Macon—p 190
Subphrenic Abscess L W Grove Atlanta—p 192

Indiana State Medical Association Journal, Ft Wayne

March 1922, **15**, No 3

Functional Diseases of Nervous System in Soldiers and Civilians C. G Beall Fort Wayne—p 75
Foreign Bodies Within Respiratory Tract M H Krebs Huntington—p 78
Group Medicine Diagnosis. L L Solomon Louisville Ky—p 85
Physician Duty Toward Psychologic Development of Childhood and Youth in Home T B Wynn Indianapolis—p 90
Dangers and Duties of Hour H A Hare Philadelphia—p 93

April 1922, **15**, No 4

Biliary Infections J W Sluss Indianapolis—p 109
Diagnostic Uses of Duodenal Tube G W McCaskey Fort Wayne—p 114
State Medicine C S Bosenbury, South Bend—p 117
Old Indiana Book on Medicine J N Hurty Indianapolis—p 122
Physician How May He Grow Old Gracefully? F B Wynn Indianapolis—p 124

Johns Hopkins Hospital Bulletin, Baltimore

June 1922 **33**, No 376

*Evolution of Human Races in Light of Hormone Theory A Keith London Eng—p 195
*Relation of Nutrition to Tooth Development and Tooth Preservation F V McCollum N Simmonds and E M Kinney and C J Grieves Baltimore—p 202
*Experimental Rickets XX Effects of Strontium Administration on Histologic Structure of Growing Bones P G Shipley E A Park E V McCollum N Simmonds and E M Kinney Baltimore—p 216
*Carcinoma of Cervix Uteri K H Martzloff Baltimore—p 221
Capillaries of Bone Marrow of Adult Pigeon C V Doan Baltimore.—p 222
Effect of Slight Increase of Temperature on Bacteriostatic Power of Gentian Violet J W Churchman New York—p 227
*Experimental Rickets XXI Experimental Demonstration of Existence of Vitamin Which Promotes Calcium Deposition E. V McCollum N Simmonds J E Becker and P G Shipley Baltimore—p 229

Evolution in Light of Hormone Theory—Keith states that a study of the growth disorders reveals the fact that the hormone systems, centered in the pituitary and suprarenals, are organized on a functional basis Hormone systems represent automatic growth mechanism which, like all living qualities, are hereditary and variable Hormones represent the elements of an automatic system for the control of growth For this reason new characters do not appear at the end of a developmental stage but early in the growth of the fetus New characters appear first in utero, later they become fixed as a new character in the adult stage

Relation of Nutrition to Tooth Development—A study of the gross maxillary and dental defects in 220 rats on defective and deficient diets was made by E V McCollum et al It is shown that the internal structure of the skeleton of the rat can be changed at will by varying the ration which the animals received Some of the faulty diets studied produced rickets often of an exaggerated type, others caused osteoporosis Still others resulted in the development of the peculiar lesion, which has been called osteosclerosis A study of the effects of these diets on the skeleton would indicate that the growth of the skeleton was dependent on at least three substances (1) an organic substance present in certain fats which is not identical with the antixerophthalmic fat soluble A, (2) calcium and (3) phosphorus The studies of diets which contain varying percentages of calcium and calcium phosphate show that the absolute amount of either ion in the diet is of relatively little importance as compared to the ratio which exists between the two That is, normally calcified bone is produced without regard to the reduction or diminution of either calcium or phosphate in the food, provided the content of the other ion is proportionately augmented or depressed

Effect of Strontium on Bone Growth—When strontium replaces calcium in an otherwise satisfactory diet (2.2 per cent strontium carbonate) Shipley et al state it stimulates growth and causes the bones to develop the picture of strontium rickets The anatomic lesions described by Lehnerdt as induced by the administration of strontium to dogs, were not due to the strontium alone but to a diet very poor in calcium and high in phosphorus, and deficient in the factors fat soluble A or a second dietary essential which is

associated with certain fats, notably cod liver oil Cod liver oil does not enable the animal to compensate for a faulty diet containing strontium

Carcinoma of Cervix Uteri Cured—The case reported by Martzloff is one of very early carcinoma of the cervix, a discharge having been present only three months Examination revealed nothing grossly abnormal A panhysterectomy was performed in August, 1921, and today the patient feels perfectly well The patient was 55 years of age Her menopause occured five years ago

Vitamin Promotes Calcium Deposition—Oxidizing cod liver oil for from twelve to twenty hours at 100 C by blowing air through it was just as effective in curing rickets in rats as untreated oil The antirachitic effect of cod liver oil is not due, therefore, to its content of fat soluble A, but to some other factor which the oil contains The existence of this substance which exerts its effects in so remarkable a manner on the growing bones, is now as firmly established as is the existence of any of the three hitherto recognized vitamins From its mode of action, and the very small amounts of it which are required to exert its directive influence on metabolism it must E V McCollum et al believe, be classed with this group of essential nutritive principles

Journal of Biological Chemistry, Baltimore

June 1922 52 No 2

Colorimetric Method for Determination of Small Amounts of Magnesium A P Briggs St Louis—p 349
Digestibility of Proteins in Vitro Chemical Nature of Nutritional Deficiencies of Arachin D B Jones and H C Waterman Washington D C—p 357
Determination of Globulins in Blood Serum R R Henley Washington D C—p 367
Determination of Total Oxygen Combining Power of Blood in Van Slyke Apparatus C Lundsgaard and E Moller Copenhagen Denmark—p 377
Nutritional Requirements of Baby Chicks Further Study of Leg Weakness in Chickens E B Hart J G Halpin and H Steenbock Madison—p 379
Method for Direct Determination of Uric Acid in Urine S R Benedict and E Franke New York City—p 387
Threshold of Ketogenesis R M Wilder and M D Winter Rochester Minn—p 393
Role of Cystine in Dietary Properties of Proteins of Cow Pea Vigna Sinensis and of Field Pea Pisum Sativum A J Finks D Breese Jones and C O Johns Washington—p 403
Determination of Magnesium in Blood Plasma and Serum W Denis New Orleans—p 411
Relation Between Endogenous Catabolism and Nonprotein Constituents of Tissues H H Mitchell W B Nevens and F E Kendall Urbana Ill—p 417
Volatile Oil of Mentha Aquatica Linne Occurrence of Pulegone R E Kremers Madison Wis—p 439
Hydrogen Ion Concentration of Human Feces C S Robinson Lansing Mich—p 445
Studies of Autolysis VIII The Nature of Autolytic Enzymes H C Bradley Madison Wis—p 467
Possible Asymmetry of Aliphatic Diazo Compounds II P A Levene and L A Mikeska New York—p 485
Studies of Acidosis XIX Colorimetric Determination of Hydrogen Ion Concentration of Blood Plasma G E Cullen New York—p 501
Comparison of Colorimetric and Electrometric Determinations of Hydrogen Ion Concentrations in Solutions Containing Carbon Dioxid G E Cullen and A B Hastings New York—p 517
Modification of Clark Hydrogen Electrode Vessel to Permit Accurate Temperature Control G E Cullen New York—p 521
Measurement of Buffer Values and Relationship of Buffer Value to Dissociation Constant of Buffer and Concentration and Reaction of Buffer Solution D D Van Slyke New York—p 525

Determination of Globulins in Blood Serum—The two methods described by Henley give results in practical agreement with those obtained by the Cullen and Van Slyke method but are, in some respects at least less involved than the Cullen and Van Slyke method Method 1 estimates the globulins by determining the nitrogen of the filtrate and by making the necessary calculations to determine the globulins by difference Method 2 determines globulins by direct weighing

Determination of Uric Acid in Urine—The reagent employed by Benedict and Franke is arsenic phosphoric tungstic acid reagent and is prepared as follows 100 gm of pure sodium tungstate are placed in a liter pyrex flask and dissolved in about 600 c c of water, 50 gm of pure arsenic acid are now added followed by 25 c c. of 85 per cent phosphoric acid and 20 c c of concentrated hydrochloric acid The mixture is boiled for about twenty minutes, cooled, and diluted to 1 liter The reagent appears to keep indefinitely A 5 per cent solution of sodium cyanid, which should be prepared fresh once in about two months, is also used, and a standard solution of uric acid acidified with hydrochloric acid containing 0 2 mg of uric acid in 10 c c

Hydrogen Ion Concentration of Feces—The normal fecal reaction of apparently healthy men on mixed diets, Robinson found lies between p_H 7 0 and 7 5 though temporary variations beyond this range may occur without giving rise to any unusual sensations on the part of the subject The effects of some common laxatives on the fecal reaction were studied The usual result is the production of an acid stool The administration of the alkali magnesium oxid, does not differ from the others in this respect but the fecal material passed after the cessation of the laxative action is unusually alkaline The physiologic factor is the predominant one in influencing fecal reaction no result being noticeable from the introduction of acidophilic bacteria into the intestine The intestine apparently exerts a regulatory influence which prevents the development of acidity by micro-organisms There is evidence that alkalinity in feces is also due to physiologic rather than biologic causes

Journal of General Physiology, Baltimore

May 1922 4, No 5

Does Kinetics of Trypsin Digestion Depend on Formation of Compound Between Enzyme and Substrate? J H Northrop New York—p 487
Influence of Roentgen Rays on Properties of Blood R G Hussey New York—p 11
Kinetics of Bioluminescent Reaction in Cypridina I Introduction W R Amberson Cleveland—p 517
Id II Experimental Results W R. Amberson Cleveland—p 535
*Action of Curare Atropin and Nicotin on Invertebrate Heart A J Carlson Chicago—p 559
Effect of Temperature on Phototropic Response of Nectarus W H Cole Lake Forest Ill—p 569
Effect of Cocain on Growth of Lupinus Albus D I Macht and M B Livingston Baltimore—p 573
Studies on Regulation of Osmotic Pressure II Effect of Increasing Concentrations of Albumin on Conductivity of Sodium Chlorid Solution W W Palmer D W Atchley and R F Loeb New York—p 585
Equilibrium Condition Between Blood Serum and Serous Cavity Fluids R F Loeb D W Atchley and W W Palmer New York—p 591
Colloidal Behavior of Edestin D I Hitchcock New York—p 597
Elimination of Discrepancies Between Observed and Calculated P D of Protein Solutions Near Isoelectric Point with Aid of Buffer Solutions J Loeb New York—p 617
Electrical Charges of Colloidal Particles and Anomalous Osmosis II Influence of Radius of Ion J Loeb New York—p 621

Action of Curare, Atropin and Nicotin on Heart—According to Carlson curare atropin and nicotin in mollusca and arthropods stimulate and paralyze the central nervous system and peripheral (visceral) ganglions but do not paralyze the motor nerve endings to skeletal or visceral muscle They stimulate and paralyze the denervated heart They paralyze or block the cardio inhibitory nerves but not the cardio-accelerator nerves In the Limulus heart these drugs act primarily on the heart ganglion, not on the heart muscle or the intrinsic motor nerve fibers

Journal of Laboratory and Clinical Medicine, St Louis

June 1922 7 No 9

*Focal Embolic Glomerulonephritis M Warwick St Paul—p 507
*Role of Hexamethylenamin in Production of Hematuria W A Bloedorn and J E Houghton Annapolis—p 514
Chronic Urticaria of Five Years Duration Probably Due to Chronic Acidosis G W McCaskey Fort Wayne Ind—p 534
Studies in Postmortem Bacteriology Value and Importance of Cultures Made Postmortem A S Giordano and A R Barnes Rochester Minn—p 538
Widal Technic Using Sterilized Cultures R Gilbert and A. C. Moore Albany N Y—p 547
Suggestions for Determination of Uric Acid in Blood L. Bauman and L M Keeler New York City—p 551
Use of Open Delivery Tubes in Distillations When Determining Urea and Nonprotein Nitrogen in Blood G E Youngburg Buffalo—p 552
Method of Counting Cells in Cerebrospinal Fluid C F Carter Dallas Tex—p 555
What Are Atmospheric Moisture Requirements of Bacteria N Kopeloff and S Morse New York City—p 555
Adapted Mask for Basal Metabolism Apparatus P B Newcomb Los Angeles—p 560
Plea for Standardization of Training for Laboratory Technicians G B Crant and F R Wilson Los Angeles—p 562

Making Collodium Sacs N Muskin and L. Siegel New York City — p 564
Liver Function W T Vaughan Richmond —p 565
Pathogenicity of Bacillus Botulinus V C Vaughan, Washington — p 570
Cod Liver Oil in Rickets V C Vaughan Washington —p 571

Focal Embolic Glomerulonephritis—Ten cases of focal embolic glomerulonephritis are analyzed by Warwick In all ten cases the heart was enlarged from 365 gm (in a small female) to 860 gm, with an average of 515 gm The mitral valve was involved alone five times, the mitral and aortic valves together four times, while the aortic valve alone was involved but once The lesion consisted of vegetations which were sometimes accompanied by ulcerations of the valve leaflets In five cases vegetations and ulcerations occurred together, but in the other five cases vegetations occurred alone, thus disproving the older idea that the endocarditis associated with focal embolic glomerulonephritis was usually of the 'ulcerative" type The vegetations varied markedly in appearance and position on the endocardium The majority were fresh and friable while some were more firm and showed beginning calcification in certain areas In some instances the vegetations were very numerous and extended over the auricular wall In other cases, the vegetations were small and discrete and situated on the edges of the leaflets One heart showed only two small vegetations on the mitral value and one large one on the aortic valve In another case, yellowish white vegetations, associated with calcareous nodules, were found on the mitral valve only In five cases in which blood cultures were taken either just before or just after death, *Streptococcus viridans* was present four times and *Streptococcus pyogenes* once In one case *Streptococcus hemolyticus* was obtained from the blood stream, showing that streptococci other than *Streptococcus viridans* may be responsible for focal embolic glomerulonephritis In all the cases of this series in which a history was available, the urine showed albumin, hyaline and granular casts, occasional leukocytes and persistent red blood cells, but in no case was gross blood present—a point of differentiation from cases of acute hemorrhagic nephritis In all ten cases, the spleen was enlarged

Rôle of Hexamethylenamin in Production of Hematuria—Bloedorn and Houghton report five cases of hematuria, which developed among approximately 400 patients with mild influenza who received from 30 to 60 grains of hexamethylenamin a day The hematuria appeared in from one to seven days following the administration of the drug In an attempt to demonstrate an idiosyncrasy to hexamethylenamin in these patients, the drug was applied in varying dilutions to the slightly abraded skin of the forearm, and in each case a reaction consisting of redness, induration and the production of a raised area, was noted

Method for Counting Cells in Cerebrospinal Fluid—Carter uses the Levy counting chamber with double Neubauer ruling, this being the one in almost universal use for blood counting and Levinson's diluting fluid (methyl violet, 0 2 gm , glacial acetic acid, 5 c c and water to make 100 c c) With a pipet (1 c c) equal parts of cerebrospinal fluid and diluting fluid (0 5 c c of each) are mixed The total number of cells counted multiplied by two gives the total cells per cubic millimeter

Journal of Pharmacology and Experimental Therapeutics, Baltimore

June 1922, **19**, No 5

*Hemolytic Properties of Arsphenamin and Fifteen Allied Compounds G P Grabfield Boston —p 343
Feeding Experiments on Tadpoles Prostate Gland and Other Substances J M Rogoff and W Rosenberg Cleveland —p 353
Animal Calorimetry XXI Influence of Morphin on Heat Production in Dog A Chanutin and G Lusk New York —p 359
Chronic Intoxications on Albino Rats VI Lead Carbonate T Sollmann Cleveland —p 375
*Improved Method for Using Phenoltetrachlorphthalein as Liver Function Test S M Rosenthal Baltimore —p 385

Hemolytic Properties of Arsphenamin—By means of a method described by Grabfield, the hemolytic activity of various samples of arsphenamin was found to vary in a general way as did the toxicity, when the latter depended on variations in the conditions of reduction of the nitro group to the amino group in the preparation of the sample On standing or after shaking in alkaline solution, the hemolytic properties of a given sample decrease, often disappearing altogether "Arsenoxid" is nonhemolytic The sodium salts of various substituted phenylarsonic acids related to arsphenamin are nonhemolytic Warming a sample of disodium arsphenamin to 55 C decreases its hemolytic power Warming the hydrochlorid causes comparatively little diminution of hemolytic power when tested after being changed to the disodium salt The hemolytic power of dihydroxyarsenobenzene (in 1 per cent solution as sodium salt) is nil, but the introduction of amino groups causes the resulting compounds to acquire hemolytic properties in direct proportion to the number of amino groups introduced The antihemolytic action of arsphenamin is similar to that described for sodium arsenate and arsenite when tested against chemical hemolytic agents, none of these substances exert an antihemolytic action against rabbit hemolysin The presence of serum inhibits hemolysis by arsphenamin

Liver Function Test—Phenoltetrachlorphthalein has been injected intravenously by Rosenthal and its subsequent concentration in the blood has been studied In normal dogs there is an immediate rise to approximately 10 per cent., rapidly falling to only a trace or to complete disappearance within fifteen minutes When the liver is damaged the amount of dye in the blood reaches from 15 to 30 or more per cent, and remains elevated for a prolonged period, 11 per cent having been recovered almost two hours after injection There is evidence that the curves obtained have parallel the degree of impairment of liver function and it is believed that the method can be applied clinically as a quantitative test for liver function

Journal of Radiology, Omaha

June 1922 **3**, No 6

Cancer of Lip Treated by Radiation or Combined with Electrocoagulation and Surgical Procedures G E Pfahler Philadelphia —p 213
Duodenal Bulb Deformity in Relation to Symptoms and Chemistry of Gastric Juice A W Crane, Kalamazoo Mich —p 218
Study of Hilus Pneumonias by Serial Radiographic Examination L R Sante St Louis —p 221
Radium and Roentgen Ray Therapy in Malignancy Indications Contraindications Limitations and Recent Developments A U Desjardins Rochester Minn —p 226
Roentgen Ray Anthropometry of Skull A J Pacini Washington D C —p 230
Standardization of Dosage Factors H J Ullmann Santa Barbara Calif —p 239

Missouri State Medical Association Journal, St Louis

June 1922, **19** No 6

Reorganization and Consolidation of State Hospitals of Missouri G P Ard Jefferson City Mo —p 251
Two Stage Operation for Relief of Certain Infections of Biliary Passages W P Glennon St Louis —p 256
Epithelial Proliferation Differential Pressure as Aid in Growth of Epithelium on Denuded Surface E D Twyman Kansas City Mo —p 257
Focal Infection Idea R Kinsella St Louis.—p 258
Digitalis Excellent But Dangerous Therapeutic Agent J F Chandler Oregon, Mo —p 260
Megacolon Report of Case E Fischel St Louis —p 261
Immediate Cure of Chronic Catarrhal Deafness Painless Cure of Chronic Ear Discharge Including Ideal Mastoid Antrum Opening by Way of Auditory Canal R Barclay St Louis —p 263
Importance of Blood Chemistry in Chronic Nephritis C M Wilhelmj St Louis —p 268
Scope and Purpose of International Health Board J A Ferrell New York —p 271
Gastric Ulcer T G Hall St Louis —p 274

Case of Megacolon with Symptoms of Obstruction—Fischel reports the case of a man aged 48, who presented symptoms which led to the diagnosis of acute bowel obstruction due probably to a malignant tumor of the sigmoid At the operation the suture colon from the cecum to the rectum was markedly hypertrophied The condition was recognized as a true megacolon A complete resection of the colon was done beginning at the proximal side of the ileocecal valve and terminating at the disal end of the sigmoid The disal end of the severed sigmoid was inverted and an end to side

anastomis of the ileum to the anterior wall of the rectum was performed The postoperative course was stormy in the extreme The patient was discharged seven weeks after the operation with the wound entirely healed He was seen again three years later He worked steadily, had two large soft stools daily There was considerable urgency, however.

Virginia Medical Monthly, Richmond

May 1922 49 No 2

Lung Abscess with Report of Cases J T Buxton Newport News —p 53
Remarks About Head and Other Pains Due to Nasal Irritation J A White Richmond —p 61
Electrotherapeutic Misconception Sinusoidal Current C A Pfender Washington, D C —p 65
Silent Stones. W L Pegle Richmond —p 70
Gallbladder Disease W E Clark and M W Perry Washington D C —p 74
Surgical Significance of Pain in Left Side of Abdomen R L Pitt man Fayetteville N C —p 81
Report of Case of Melanotic Sarcoma of Choroid C Edmond Clifton Forge —p 84
Plea for Greater Effort in Conservation of Hearing in Acute Diseases of Middle Ear and Mastoid F W Perry Lynchburg —p 85
Relation of Modern Dentistry to Practice of Medicine G R Harrison, Richmond —p 88
Citizenship and Physician E L Kendig Victoria —p 91
Home Treatment of Tuberculosis R L Raiford Sedley —p 93
Chronic Endocervicitis E W Titus Washington D C —p 96
Appendicular Liver and Kidney Report of Cases L H Swindell, Washington D C —p 98

Wisconsin Medical Journal, Milwaukee

June 1922 21, No 1

Newer Conceptions as to Causes of Gastric Ulcer K W Doege Marshfield Wis —p 1
Doctrine of Prepared Soil Neglected Factor in Surgical Infections H Cabot Ann Arbor Mich —p 6
Cholecystectomy —Its Failure to Give Relief in Certain Cases of Cholelithiasis P P M Jorgensen Kenosha Wis —p 11
Eye Injuries in Industries G I Hogue Milwaukee —p 12
Hyperalgesia of Skin and Subcutaneous Tissues as Factor in Diagnosis of Lesions of Abdominal Viscera G F Thompson Chicago —p 14

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

June 17 1922 1, No 3207

Sins and Sorrows of Colon A F Hurst —p 941
Physiologic Explanation of Pain Due to Functional Disturbance of Muscle of Colon T S Wilson —p 944
Two Hundred and Twenty Five Cases of Pneumonia An Analysis A W Owen —p 946
Treatment of Chronic Synovitis of Knee Joint G G Atkins —p 948
Neurosyphilis with Severe Laryngeal Crisis Tracheotomy J W Leitch —p 949
Treatment of Asylum Dysentery by Means of Antidysentery Serum P Lornie and D E Jones —p 949
External Hydrocephalus C E Reynolds —p 950
Case of Addison's Disease Rapidly Fatal C M Fleming —p 951
Cobra Bite V St J Croley —p 951

Functional Disturbance of Colon Causes Abdominal Pain —Clinical study of cases has convinced Wilson that pain can be caused by the transference to the sensory tracts of the cord of afferent impulses which arise in the sympathetic and which if retained in that system would cause disturbance of the brain of a reflex character and would not cause physical pain It seems probable that when the muscular activity which originates the nervous impulse is decidedly more powerful than impulses due to normal digestive activity, there is considerable probability of this transference taking place, and when, as in cases approaching the severity of ordinary colic the afferent impulse is an extremely powerful one, the transference of the nervous impulse from the sympathetic system to the sensory tracts of the cord almost invariably takes place and a sensation of pain is the result With regard to the localization of the pain it is not, as a rule, felt over the spot where it probably arose but is usually "referred or "segmental" in character The clinical study of a series of cases in which mental depression and neurasthenic symptoms result from functional disturbance of the colon muscles, shows that there are some cases which cannot be explained by the theory of inhibited cerebral vasodilatation When the circulation alone is concerned, the defect can be removed by a more vigorous mental effort, just as is the case with physical lassitude which can be overcome by a more vigorous muscular effort It is not at all unusual, however, to find cases of functional colon disturbance in which the mental depression is so severe as to be wholly beyond the patient's voluntary control, and constitutes an acute mental misery which is comparable in the mental sphere to a severe physical pain in the sphere of sensation The occurrence of such cases compels recognition of the fact that nervous impulses arising in the colon and passing to the brain along sympathetic nerve paths have the power of directly disturbing that portion (or those functions) of the brain on which the sense of well being is dependent, and of giving rise to an acute mental misery which truly represents the physical pain which they would have felt if the afferent impulse causing it had been transferred from the sympathetic to the sensory tracts of the cord The fact that these cases are really due to the functional disturbance in the colon is demonstrable clinically by the fact that they yield to treatment which lessens the amount of postural activity in the colon

Treatment of Pneumonia —The mortality in Owen's series of 225 cases was 14 2 per cent The treatment consisted in the administration of milk, beef tea, albumin water, and plenty of cold water until after the crisis, ammonium carbonate, 5 grams every four hours for adults and 1 gram for an infant of 1 year, and proportionately according to age Morphin for adults and brandy were the only other remedies used

Treatment of Synovitis of Knee Joint —Chronic effusion of the knee joint Atkins asserts is, in 75 per cent of cases, not due to an injured cartilage, but to a strain of some structure around the joint This can be dealt with effectively by reeducation of the vastus internus, plus the production of as large an increase as is possible in the blood supply around the joint This latter is obtained by (1) contrast baths, (2) limited active exercise of all muscles around the joint, and (3) massage If this treatment is instituted in every case of chronic effusion of the knee joint the number of operations for a so-called injured cartilage will diminish, and many men will be able to enjoy various forms of sport which they otherwise would not be able to take part in for fear of 'putting out" a knee again

Bristol Medico-Chirurgical Journal

March and June 1922, 39, No 145

Medicine and Psychology J H Parsons —p 2
Renal Efficiency C Clarke —p 13
Physiologic Conception of Prolonged Hysterical Conditions H H Carleton —p 36

Journal of Laryngology and Otology, Edinburgh

June 1922 37, No 6

So-Called Prolapse of Laryngeal Ventricle and Eversion of Sacculus I Moore —p 265
Modified Radical Mastoid Operation D Watson —p 275
Case of Cavernous Sinus Thrombosis of Otitic Origin by Supposed Direct Infection of Petrosal Sinuses J A M Hemmeon —p 281
Transnasal Laryngeal Medication in Laryngeal Phthisis J Dundas Grant —p 285
Malignant Disease of Nasal Accessory Sinuses E M Woodman —p 287
Basal Cell Carcinoma of Larynx W G Howarth —p 295

Journal of Obs and Gyn of British Empire, London

1922 29, No 1

Manchester School Charles White (1728 1813) and Arrest of Puerperal Fever J G Adami —p 1
*Chemical Observations on Toxemias of Pregnancy O L V de Wes selow —p 21
Extragenital Chorionepithelioma of Congenital Origin J Miller and F J Browne —p 48
*After Results of Removal of Uterine Appendages in Hysterectomy for Uterine Fibroids and Chronic Metritis J W Bride —p 68
*Case of Intencephaly Without Spina Bifida G I Strachan —p 87
Salpingotomy Versus Salpingectomy in Treatment of Tubal Gestation B Whitehouse —p 93
Treatment of Advanced Carcinoma of Cervix of Uterus by Radium A Burrows —p 97
*Case Diagnosed as Fulminant Menstrual Peritonitis Contribution to Study of Idiopathic Puerperal Fever (Self Infective) J G Adami —p 104

Infected Fibromyoma of Puerperal Uterus Associated with General Peritonitis and Removed by Hysterectomy E Holland —p 108
Case of Rupture of Uterus Through Scar of Previous Cesarean Section L Graham —p 111

Chemistry of Toxemia of Pregnancy—A study of the literature has led de Wesselow to the conclusion that the data available for the chemical findings in normal pregnancy are scanty and contradictory Apparently the organism is in a condition of low nitrogenous metabolism, and therefore from the standpoint of urinary nitrogen distribution is in unstable equilibrium From the conditions present in pregnancy, it appears unlikely that an undue strain is being placed on the excretory organs, but rather that the demands made on the excretory functions of the kidney are, as far as concerns nitrogenous waste products, less than in the normal person The corresponding chemical data for toxemic and eclamptic cases are given In four cases of pyelitis complicating pregnancy the blood urea values varied from 14 to 21 mg Evidence of a renal defect was, however, present in all in the form of a definitely lowered response to the urea concentration test the lowest figure noted being 1 3 per cent It would seem that the indications furnished by the urea concentration test are in these cases, of considerably greater value than determinations of the urea and nonprotein nitrogen of the blood Further the repetition of the test, when it has been possible has usually given indications of the progress of the case With few exceptions, defect of the urea excreting power of the kidney appears to be the rule in the toxemias of pregnancy, and since edema is almost invariably present, the nephritis would appear to be of the mixed type, the impairment of the ability to excrete waste nitrogenous products, though definite, as shown by the urea test, is not usually extreme Marked accumulation of the urea and other nonprotein nitrogenous bodies in the blood is infrequent, but from a functional standpoint the lesion does not appear to differ in any way from the mixed type of nephritis, so frequently seen in nonpregnant women No evidence could be obtained by the methods employed of a differentiation into groups, nor from a chemical standpoint were any definite differences detected between those cases complicated by convulsions and those in which no convulsions occurred On the contrary, the cases studied appeared to present a continuous graduation from the mildest type of albuminuria of pregnancy to the most severe No evidence could be obtained of the existence of an hepatic as distinct from a nephritic toxemia of pregnancy De Wesselow believes that chemical examination should be of definite value in averting the risk of permanent damage to the mother, and in indicating the stage at which induction becomes necessary A definitely raised urea content of the blood above 40 mg per hundred c c is proof that the kidney is severely damaged, and is an indication for induction of labor In default of a raised blood urea, the urea concentration test affords valuable evidence of the condition of the renal function, and, when the figure obtained is below 2 per cent, termination of the pregnancy should be considered Repetition of both examinations, after an interval, is invaluable, since a rising blood urea with a falling concentration capacity constitutes an obvious indication of a progressive lesion In cases in which a low diastatic content is present, chronic disease and a less complete recovery are suggested In all cases blood pressure observations afford most valuable assistance in prognosis and treatment

Extragenital Chorionepithelioma in Male—In the case reported by Miller and Browne a testicular growth was excluded with certainty, and the primary tumor was situated behind the liver, arising there in all probability from an errant primitive germ cell The patient was a male, aged 39 With the exception of slight colds he had been well all his life until about six weeks before admission He then began to be troubled intermittently with a pain in the right side, just "at the foot of the ribs" At first slight, the pain had gradually become worse It was only after admission to the infirmary that he noticed any swelling in his abdomen The swelling became rapidly larger after admission Patient stated that never at any time was he jaundiced and he had never suffered from piles or from swelling of the legs or feet The liver rapidly enlarged and became more painful A needle was put into the liver and blood stained fluid drawn off, the syringe being easily filled, and the fluid under a certain degree of pressure Large cells resembling amebae were present A second specimen was obtained in a similar way a few days later, and on this occasion no such cells were found The pain now became so severe and continuous as to require the frequent administration of heroin Slight jaundice made its appearance, the liver became excessively tender, the least touch causing agony On the thirtieth day after admission the patient died, after having been delirious during the previous twenty-four hours At the necropsy the abdominal cavity was found filled with fluid and clotted blood The liver was enormously enlarged, and showed several tumor like masses, visible through the capsule On section very large tumor masses were seen, some of these consisted of large spaces filled with fluid blood Immediately behind the liver was a large mass, apparently enclosed in a fibrous capsule and containing material similar to that found in the liver tumors In addition there were several large glands behind the peritoneum infiltrated with growth which had the same appearance The testicles were carefully examined, but no abnormality was found, either to the naked eye or microscopically The histologic examination which is described in detail, disclosed the fact that this was a typical chorionepithelioma, which evidently originated in an abnormally situated primitive germ cell The latter, without fertilization had undergone development, producing a teratoma containing all three layers of the embryo plus trophoblast The stimulus for division of the primitive germ cell (gamete) probably was found in the abnormal (not ovarian or testicular) tissue by which the gamete was surrounded The authors suggest that the cause of the malignant transformation of the teratomatous formation may be found in the little understood disturbed balance of internal secretions, occurring in adult and especially in middle life

After-Results of Removal of Tubes and Ovaries—Of 231 patients who answered Bride's questionnaire, 186 had both their ovaries and tubes removed Abdominal or vaginal total hysterectomy had been performed in 8 cases, subtotal or supravaginal hysterectomy had been performed in 178 cases, the remaining 45 patients had either one or both uterine appendages left Vaginal hysterectomy with removal of one appendage had been performed in 2 cases Supravaginal hysterectomy with removal of one appendage had been performed in 3 cases Vaginal hysterectomy with both appendages left had been performed in 40 cases These investigations seem to have established the following points in comparing the conservative and radical operations (1) The general health of nearly all the patients after both operations is much better but a larger percentage are better after the radical operation (2) The temperament of the patients is adversely affected in only a small percentage after either operation, but after the conservative procedure this percentage is slightly larger (3) Flushings occur in a large percentage of patients after either operation The percentage is greater, though not much, after the radical operation (4) A very small percentage of patients complain of nervous symptoms after operation, but the percentage is larger after the conservative operation (5) A very small percentage of women after either operation complain of more pain, but after the conservative operation it is more than twice the percentage after the radical operation (6) A larger percentage of women have disturbances of their sexual relations after the radical than after the conservative operation in the proportion of 39 to 26 per cent (7) There is a greater tendency to adiposity when both ovaries are removed In brief then, so far as the majority of the manifestations of the artificial menopause are concerned there is very little to choose between the two types of operation The advantage lies with the radical operation in every way save two The two exceptions are the occurrence of flushes and the sexual disability

Iniencephaly Without Spina Bifida—Besides the deformity indicated in the title there was in this case absence of the

left cupola of the diaphragm in its dorsolateral part the ventrolateral part being represented by a small muscular band attached to the costal margin in front and with a free posterior edge The left hepatic lobe occupied the space to the left of the heart normally occupied by the left lung The liver was of a doubled-up shape from side to side the groove for the ductus venosus being converted into a canal by fusion of hepatic tissue underneath Some small intestine (7 5 cm) was firmly adherent to the cystic duct and had to be removed with the liver The left kidney and suprarenal body were seen extending up the posterior wall of the thorax, the tip of the suprarenal body lying at the level of the seventh rib while above this was the spleen Between these structures and the heart was the left lung, a small fleshy structure 3 cm in vertical measurement attached to the left side of the pericardium The right lung was also small firm and fleshy, but larger than the left being 5 2 cm long The thymus was large and pale and hung down one third of the way in front of the pericardium, while the thyroid was normally situated and presented no naked eye abnormality The stomach consisted of a vertical cul de-sac, the wall of which was pale and showed some sacculation the apertures of entry and exit were both at the upper end only about 1 cm apart while the sac measured vertically 6 cm The organ lay partly behind the heart and partly behind the liver and surrounded by a large and soft pancreas The small intestine 41 0 cm in length, lay partly behind the pericardium and partly arranged in an irregular fashion in the abdomen ending in the left iliac fossa where the appendix was seen the ileocecal junction was represented by an ampulla-like swelling from which the large intestine extended in an irregularly double sigmoid fashion to turn down into the pelvis to join the rectum which opened at the anus The intestinal canal was everywhere patent, but there was no difference in caliber between the small and large intestine the latter showing no attempt at arrangement into ascending transverse and descending colon The kidneys were both lobulated the right one was normally placed Apart from being prolonged the labor which lasted sixty two hours was normal while the fetal heart, beating at 120 per minute was heard in the early part of labor although at birth the fetus was dead

Fulminant Menstrual Peritonitis—Adami reports his findings in a necropsy made on a young girl aged 14 who died suddenly after an illness of very short duration the exact nature of which could not be determined The only pathology present was found in the abdomen The intestines were wetter than usual and diffusely injected and there was a very definite accumulation of fluid in the pelvic cavity where also the intestinal coils and the fallopian tubes were more intensely injected The fluid was not purulent it was translucent, though at the same time definitely turbid The congestion and increased quantity of fluid indicated that here was a peritonitis of an acute type that had not gone on to suppuration All other organs were normal The girl was menstruating at the time of her death The uterus was firm of normal size, its mucosa reddened, and it contained blood stained fluid There was however no appearance not compatible with simple menstruation The fallopian tubes were injected, as already stated and the fimbriae abnormally 'angry' in appearance The ovaries were normal The symptoms had been abdominal Examination of the abdominal fluid gave a pure culture of a streptococcus in long chains The history was that the girl had been menstruating for three days before her death About twelve hours after the completion of an athletic contest the girl woke with acute abdominal discomfort which gave way to intense pain and the development of an intense toxic comatose state Death supervened just about twelve hours after the appearance of the first symptom Adami gives this explanation of the case Whereas between menstrual periods the uterus is sealed by the cervical plug of mucus during menstruation the mouth of the uterus and so the way to the fallopian tubes and peritoneal cavity is open and that by negative abdominal pressure the contents of the vagina may thus under favorable circumstances be sucked into the peritoneal cavity A single brief period of negative pressure might at most draw the vaginal contents into the mouth of the uterus, but a succession of acts leading to alternative positive and negative pressures in the abdominal cavity, acts such as swinging from ring, to ring round the gymnasium, or again acts of prolonged negative pressure such as balancing inverted with feet in the air on the horse or parallel bars, would strongly favor the suction of vaginal contents along the whole length of the female genital canal

Journal of State Medicine, London

June 1922 **30**, No 6

Alcohol in Relation to Industrial Hygiene and Efficiency T Oliver [et al]—p 241
Institutional Management of Young Infants F Pritchard—p 249
Anaerobic Infection W Cramer and W E Gye—p 254
Chlorination of Municipal Water Supplies J Race—p 263

Lancet, London

June 24 1922 **1** No 5156

Clinical Symptoms of Cerebellar Disease and Their Interpretation G Holmes—p 1231
Bacillus Coli Infection of Urine W Hale White—p 1237
Exostosis in Congenital Syphilitic Inflammation of Long Bones H M Turnbull—p 1239
Rheumatic Cardiac Affections Plea for Notification and Institutional Treatment M O Raven—p 1241
Fish Liver Oils and Other Highly Potent Sources of Vitamin A S S Zilva and J C Drummond—p 1243
Case of Acute Primary Phlegmonous Enteritis J B Y Wilson—p 1244

Bacillus Coli Infection of Urine—Hale-White states that sufferers from this condition must stay in bed, plenty of bland drink such as barley water, should be given to wash out the bacilli food should be light and suitable to the degree of the rise of temperature In young children it is particularly important by every possible means to get them to take and absorb nourishment for they waste rapidly in many instances It pain or frequency of micturition lead to bad nights hyoscyamus and, if necessary, sleeping draughts, or even morphin should be given The patients so rarely die, and the disease is so frequently overlooked, that we must conclude that the natural tendency is for these patients to get well Therefore it is difficult to be sure whether any particular treatment is beneficial, but it seems reasonable to try to disinfect the urine But if the disease is primarily a blood infection and the bacilli are excreted by the urine and then set up the urinary symptoms this treatment will not affect such of the symptoms as are due to the blood infection Usually an autogenous colon vaccine is used, it is difficult to prove that it does good but to give it is reasonable Those who have suffered from the disease once are especially liable to do so again such either have a low resistance to the bacilli or in them they are especially virulent

Congenital Syphilitic Osteitis—Congenital syphilitic disease of bone Turnbull asserts, is not a general systemic condition but is due to the local presence of spirochetes The older the child the fewer are the portions of bone affected In the fetus the infection tends to be widespread, but it is not necessarily universal Further, when several bones are affected the lesions are greater and more conspicuous in some bones than in others It is advisable therefore, in each case to examine as many bones as possible The femur, tibia, humerus and ribs are sites of election, the femur and ribs are easy of access and should be examined in all cases

Rheumatic Heart Disease—Raven is convinced that if rheumatic heart disease could be made equally with tuberculosis a notifiable disease many tragedies would be avoided, it would soon be generally recognized that every case in which there has been the slightest sign of damage to the heart requires long recumbency and longer observation, medical officers should be enabled to supervise the conditions under which patients receive their treatment and institutions should be provided for their recovery if as will be the case, as a general rule treatment at home is not giving the heart its best chance lastly careful watch should be kept over all children with damaged hearts, until they reach an age when they may be expected to exercise the necessary self-restraint The hearts which are much in evidence in the examination room exhibiting various combinations of mur-

murs and thrills, are not those which should interest us most The most interesting heart is the one which, known to have once been involved in an acute rheumatic infection, is nevertheless observed to be functionally efficient ten, twenty, forty and sixty years afterward

Medical Journal of Australia, Sydney

May 20 1922 **1**, No 20

Dementia Praecox J T Anderson —p 540
Present Plague Outbreak in Sydney W G Armstrong —p 546
Plague Epidemic F W Ferguson —p 552

May 27 1922 **1**, No 21

Treatment of Malignant Disease by Radiation H C Nott —p 567
Criteria of Normality in Growth of Children T B Robertson —p 570
Treatment of Vascular Nevi E H Molesworth —p 576
Vaccine Treatment of Gonorrhea A Foster —p 578
Case of Idiopathic Partial Rupture of Sigmoid Colon with Hemorrhage into Peritoneal Cavity R Southby —p 579

Naval Medical Association Bulletin, Tokyo

May, 1922, No 35

Experimental Study on Histologic Changes of Wound by Exposure to Direct Rays of Sun I Sugita —p 1

Annales des Maladies Veneriennes, Paris

June 1922 **17**, No 6

*Failure of Preventive Treatment of Syphilis J Golay —p 401
*Formaldehyd Test in Serodiagnosis of Syphilis A Bouttiau —p 407
Latent Chronic Cowperitis R Leszczynski —p 416
Syphilitic Aneurysms of Arch of Aorta Decrop and Stille —p 438
Invisible Chancre of the Vulva G Belgodere —p 442
Lymphangitis of Arm Cured by Antigonococcus Vaccine Matarasso —p 448

Failure of Preventive Treatment of Syphilis—The two men of 30 and 38 were given systematic preventive treatment, and this evidently warded off the primary lesion, but the secondary manifestations developed the same as if no treatment had been given, only five or seven weeks later than usual The failure was probably due to the length of the interval before treatment was begun sixteen days and twenty-eight days after infection

Formaldehyd in Serodiagnosis—Bouttiau concludes from 1,500 applications of the Gate and Papacosta test that the reaction is strictly specific for syphilis

Journal de Chirurgie, Paris

June 1922 **19**, No 6

*Conservative Hysterectomy P Lecene and Gaudart d'Allaines —p 561
*Radium Treatment of Hemorrhagic Metritis M Letulle —p 579
*Idem H Cesbron —p 594

"Fundic Hysterectomy"—Lecene applies this term to wedge resection of the fundus of the uterus, with the adnexa, leaving only one ovary or part of one His six illustrations show the various steps of the procedure The seventeen patients recently reexamined, out of the total twenty-one thus treated, confirm the excellent outcome Menstruation had continued regularly in 76 per cent of the women although less profuse than before In 18 per cent there was a tendency to hot flashes or to obesity, so the results were only mediocre One woman of 40 has pronounced symptoms of the artificial menopause, in this case retention of the ovary failed to accomplish its purpose The fold of peritoneum between bladder and uterus is drawn up and sutured to the peritoneal fold at the rear of the uterus This pulls the bladder backward, but none of the patients seemed to feel any ill effects from this The details of the twenty-one cases are given

Radium Treatment of Hemorrhagic Hypertrophic Metritis—Letulle reports a case of this kind in which the hemorrhages returned after radium treatment and again after a second application in seven weeks The woman of 45 returned two months later bleeding even more profusely, until hysterectomy put an end to the hemorrhages His photomicrograms show the fibrinoid aspect, etc, of the tissues, the vessels still permeable for blood, without a trace of coagulation

Radium Treatment of Hemorrhagic Metritis—Cesbron gives the bibliography on this subject since 1912, and discusses in particular the indications and technic for radium treatment of hemorrhagic metritis in virgins, in women during the reproductive period, and during the menopause, and the chronic cases He advocates radium treatment of hemorrhagic metritis in virgins only as the last resource, after failure of all other measures, including organotherapy The results have been constantly favorable in his experience with one to three applications, with intervals of a month The menses are arrested for two or three months, and then they return, normal Several girls thus treated have passed through normal pregnancies since Siredey warns, however, that even a single mild radium exposure may entail permanent sterility In chronic metritis and the metritis of the menopause, radium is incontestably the treatment of choice

Paris Médical

June 10 1922, **12**, No 23

*Herpes Zoster and Facial Paralysis G Worms and V de Lavergne. —p 481
*Serodiagnosis of Tuberculosis G Ichok —p 485
*Ischemic Retraction of Finger Flexors Soubeyran —p 490

Herpes Zoster and Facial Paralysis—Worms and de Lavergne are inclined to think that in many instances of facial paralysis for which herpes zoster is responsible, this factor is overlooked The herpes zoster infection affecting the geniculate ganglion may induce a number of clinical pictures from the complete geniculate syndrome to almost pure facial paralysis The lumbar puncture fluid generally shows lymphocytosis and high albumin and sugar content in herpes zoster This completed the differential diagnosis in one case

Serodiagnosis of Tuberculosis—Ichok writes from Besredka's laboratory to confirm the reliability of the complement fixation test for tuberculosis when Besredka's egg antigen is used In 900 persons tested the reaction was constantly negative in the nontuberculous In fifty-four children in an institution, a positive reaction was obtained in four and in these four, tuberculous lesions were discovered later Mozer and Fried applied the test in 1,005 cases of surgical tuberculosis, and report that it is as reliable in this class of cases as the Wassermann reaction with syphilitic disease of the bones Other testimony is accumulating on the value of the test The egg antigen is made by adding 1 liter of distilled water to the yolks of twenty eggs (350 c c) The water must have a neutral reaction The emulsion is then clarified with a 1 per cent solution of sodium hydroxid The amount required varies with different eggs, the optimum is reached when the fluid looks transparent in a thin layer, as in a pipet, and opaque in a thick layer The fluid is diluted to 7 liters The yolks are then in a proportion of about 1 20 (350 7,000 = 1 20) This culture medium is then distributed in Roux boxes (50 to 150 c c) and is sterilized at 110 C. for twenty minutes Four day cultures on this medium sterilized and rendered homogeneous by agitation, form the antigen for the seroreaction The mother emulsion retains its properties indefinitely

Resection of Bones of Fore-Arm for Ischemic Retraction of Flexor Muscles—Soubeyan corrected the crippling retraction of the fingers in the boy of 10 by shortening the long bones to correspond He cut out a segment 2 cm long, inside the periosteum, in both radius and ulna but at different levels No attempt was made to suture the bone, the sutured periosteum cuff forming a support The plaster splint held the elbow flexed, the fingers extended, in complete supination It was discarded the twenty-fifth day, and the functional use of the fingers was regained and has been complete during the eight years to date The arm is 1 5 cm shorter than its mate

Presse Medicale, Paris

June 7 1922 **30** No 45

*Glycemia in Diabetics M and H Labbe and P Nepveux —p 485
Sensory Disturbances with Facial Paralysis J R Pierre —p 488

Glycemia in Diabetics—Labbe and Nepveu give the composite curve from seven healthy persons tested with 45 gm of glucose in 200 c c of water, fasting, with an additional 150 c c of water at half hour intervals The sugar content

of the blood ran up at once, it reached its maximum in thirty minutes on an average, and returned to the preceding figure by the second or third hour The increase ranged from 0 14 to 0 34 gm In twelve diabetics the increase ranged from 0 5 to 2 gm , the maximum was not reached until very much later, up to 180 minutes, and the reaction persisted much longer, up to four and a half to seven hours The simple test reveals latent diabetes, and is a useful guide for treatment It is the only means to determine whether the diabetic has been cured The glycosuria does not necessarily parallel the glycemia The derangement in regulation of the sugar metabolism may be more severe than the glycosuria would indicate The diabetics in this group generally display more or less of a tendency to obesity and Bright's disease

June 14 1922, 30, No 47

Deep Roentgentherapy for Uterine Cancers and Fibromas C Chamlacher and P De coust —p 509
Typhus H Turcan —p 512

Symptoms of Typhus—Turcan ascribes differential importance to the total and rebellious insomnia, the brownish leathery coating of the tongue and the peculiar eruption small roundish or lenticular discolored spots or papules scattered irregularly but connected by an almost invisible mottling The elements of the eruption cannot be obliterated by pressure The delirium is also of a special type, calm and almost rational, although based on some delirious notion generally professional

Schweizerische medizinische Wochenschrift, Basel

May 25 1922 52, No 21 Siebenmann Number

Paraffin Injections in Treatment of Ozena Baumgartner —p 490
Differential Diagnosis of Retropharyngeal Tumors Buchmann —p 492
*Psammoma of Ethmoid Sinus C v Eicken —p 495
Treatment of Atresia of the Nares G Elmiger —p 497
*Congenital Stenosis of Esophagus G Frey —p 498
Five Years of Surgery of Ear and Nose H Haug —p 498
Bone Growth in Nose of Old Syphilitic E Hopmann —p 504
*Diverticulum in Esophagus T Hug —p 505
*Primary Cancer of the Middle Ear A Junod —p 510
Action of Acids as Local Caustics K Mayer —p 514
Bronchoscopy E Minder —p 515
*Intranasal Encephalocele F R Nager —p 516
Foreign Bodies Esophagoscopy, Forty One Cases Oppikofer —p 519
Ear Complications of Influenza E Roch —p 528
Cancer of Thyroid F Ruppanner —p 533
*Mastoiditis and Otitis Media E Schlittler —p 535
Plastic Reconstruction of Larynx and Trachea C Schmidt —p 539
Tamponing the Nose C Schmidt —p 540
Fibroma in Nasopharynx W Studer —p 541
Injury of Cranial Nerves with Fracture of Base of Skull K Ulrich —p 545

Psammoma of Nasal Sinuses—The tumor was successfully removed from the girl of 16 after its psammoma nature had been recognized as the sphenoid sinus was cleared out The eyeball on that side had been protruding for a few months The total mass of the tumor spread through the frontal ethmoid and sphenoid sinuses, it was about as large as a hen's egg, and grated like sand under the knife Two operations were required before the last trace of the tumor was removed, and with it a fragment of bone lined with the psammoma tissue Several polyps had to be removed from the nose later, and suppuration in the frontal sinus called for thorough evacuation, but no evidence of return of the tumor has been observed during the five years since It was impossible to determine where the tumor had originated There is a possibility that it might have been connected with some intradural process

Congenital Stenosis of the Esophagus—The new-born infant vomited at once almost all it ingested As it grew older the difficulty in swallowing was intermittent The child was taken to different hospitals and treated with various courses of dieting without avail Esophagoscopy finally revealed a valvelike protrusion of normal mucosa 1 or 2 cm above the cardia Frey cut the free edge of this dilated portion, using a small foreign-body forceps He followed this with systematic dilating procedures every two or three days, and in a month the boy was able to eat normally

Diverticulum in Esophagus—Hug reports three cases in men of 63 to 74 and a case in a woman of 43 The diverticulum was discovered in all in a comparatively early stage The clue had been given by the air bubbles in the pyriform sinus He pushed the diverticulum inside the esophagus, thus inverting and invaginating it, which rapidly entailed the shriveling and casting off of the invaginatum No fistula was left in his cases, although in some the diverticulum was of moderate size The patients could begin to eat at once These pulsion diverticula are always above the mouth of the esophagus and are thus in fact in the hypopharynx

Primary Cancer of the Middle Ear—Junod reports that only six cases of this kind have been encountered in over twenty five years at the Basel ear clinic, among 45,000 ear patients

Intranasal Encephalocele—The encephalocele in the boy of 6 seemed to be merely a cyst, but on its recurrence a year later it was recognized as a transsphenoid encephalocele He developed pneumococcus meningitis after a diagnostic excision Although he recovered from this, he succumbed a year later to streptococcus meningitis Nager was able to find only six analogous cases on record, the list includes one man of 60 and a babe of 3 days In the one case of permanent recovery, the pedicle of the encephalocele was reached and ligated by resecting the upper jaw of the man of 29

Cancer of the Thyroid—In Ruppanner's case the cancer in the man of 50 developed in the esophagus after thyroidectomy The goiter had been removed on account of disturbance in breathing The esophagus carcinoma was safely removed in 1915 In January, 1922, he returned with a recurrence in the trachea and this tumor was removed by the natural route There has been no return since this merely palliative operation and the patient is under close supervision

Incipient Mastoiditis with Otitis Media—Schlittler states that mastoiditis was found in all the fatal cases of intracranial complications of otitis media at the Basel ear clinic An early mastoid operation almost invariably wards them off and he describes how to recognize incipient involvement of the mastoid The pains at night in the diseased ear, and the synchronous pulsation are instructive By having the patient move his finger at each pulsation, we can see whether it corresponds to the pulse Beside the tenderness back of the ear, bulging of the posterior wall of the meatus, and swelling and tenderness at the origin of the sternocleidomastoid muscle and in the zygoma region all point to involvement of the mastoid, as also a creamy purulent discharge, keeping up for five or six weeks, and lack of improvement in hearing after two to four weeks But the synchronous pulsation, its arrest, its persistence, its returns, is the most instructive guide for estimation of mastoiditis With secondary otitis media in diabetes, etc, intracranial complications are less common the tendency being rather to regressive necrotic changes

June 1 1922 52, No 22

*The Nervous System in Disease of Organs A Oswald —p 553
Refractometry and Viscosimetry of the Blood Serum Rohrer —p 555
Squill in Therapeutics J Markwalder —p 560
Pharmacology of Squill E Jenny —p 562

The Nervous System in Relation to Disease of Organs—Oswald presents arguments to sustain the assumption that the nervous system affects the vital reactions more than we realize at present The familiar experience that 'the mouth waters' at sight and smell of appetizing food, suggests that something of the same stimulating nature may occur in one or more of the endocrine glands under certain experiences They may water in response, or their normal 'watering" may be stopped by emotional influences A catarrhal gastric or intestinal affection of neurogenous origin a conjunctivitis from mental overwork, a catarrhal endometritis may resist all treatment until the nervous system is rested and soothed, and then the cure is prompt and complete When the autonomic nervous system is sensitized from any reason, it responds more readily to slight stimuli Gastric and duodenal ulcer colitis chilblains and Raynaud's disease have already demonstrated the frequent preponderant share of the nervous system in their development He is inclined to ascribe to the present mode of life an overstimulation of the

nervous system This entails an excessive functioning of the endocrine glands, they produce an excessive amount of hormones, and this brings excessive growth He offers this as the explanation for the unusually large numbers of exceptionally tall young persons that are developing now, shooting up far beyond the average This does not indicate an improvement but rather deterioration of the race

June 8 1922 52, No 23

*The Blood Supply of Functioning Organs A Fleisch —p 581
*Test for Urobilin E Herzfeld —p 585
Subretinal Cysticercus J Strebel —p 586
*Castration in Pulmonary Tuberculosis W Rochedieu —p 588

The Blood Supply of Functioning Organs—Fleisch has devised a method for estimating the blood supply to different organs at work and at rest With this he has determined that the acid products generated by the work of the tissues possess a vessel-dilating action The blood supply is thus increased proportional to the amount of metabolic waste products formed "Every organ, every segment of tissue receives exactly the amount of blood it requires for the work it is doing at the moment" The intensity of the dilatation of the vessels is a direct function of the amount of hydrogen ions

Test for Urobilin—Herzfeld has applied the zinc acetate fluorescence technic as a test for urobilin, and has found it sensitive and reliable In 400 specimens of blood serum examined, there were traces of urobilin only in seven In the twenty-four hours' urine it averaged 50 mg in the healthy and in scarlet fever, 80 in polyarthritis and nephritis, 90 in the pregnant and 250 mg with cirrhosis of the liver

Outcome After Termination of Pregnancy on Account of Pulmonary Tuberculosis—Rochedieu tabulates the condition before, afterward and several years later in 9 cases of pulmonary tuberculosis in which abortion was induced and ovarian functioning arrested by roentgenization, and in 18 cases by abdominal hysterotomy and tubal sterilization The ultimate outcome was much better in the castration group Only 2 of the 9 have died since and all the others are materially improved, while only 5 have improved in the 18 in the other group and 6 have died The roentgen castration arresting ovulation seems to have a very favorable influence on the disease Temporary or definite castration is therefore advisable to supplement the artificial termination of the pregnancy in pulmonary tuberculosis

Archivio Italiano di Chirurgia, Bologna

April 1922 5, No 2

Reaction of Tissues to Sponge and Rubber C Vaccari —p 117
*The Ambard Ureosecretory Constant M Melanotte —p 150
Fracture of the Skull F Magni —p 177
*Delayed Healing of Fractures G Marsiglia —p 197
*Operative Treatment of Femoral Thrombosis M Fasano —p 207
*The Stomach Tube Before Operating for Perforation R Gandusio and G Pototschnig —p 212
*Treatment of Perforation of the Stomach R Gandusio —p 217

Reaction of Tissues to Introduction of Rubber Sponge and Sheet Rubber—Vaccari's research has confirmed that there is no special reaction to rubber introduced into the tissues It behaves like any other aseptic foreign body except that there may be some chemical reaction in time from the substances released as the rubber gradually disintegrates In twenty-two experiments on rabbits and other animals, rubber was used for various purposes including the suspension of the kidneys with a strip of rubber sponge or sheet rubber The rubber became coated with new formed tissue in time This encapsulation of the rubber renders it especially valuable for an isolating medium between tissues In two clinical cases a piece of rubber sponge was used to fill up a cavity in a long bone after an osteomyelitic focus had been scraped out In one of these cases the local tuberculous process flared up anew nearly a year later, it is possible that the presence of the foreign body may have contributed to this

The Ambard Constant—Melanotte warns that fever diabetes, pregnancy, general anesthesia and nephritis with tendency to dropsy may each and all modify conditions so that the Ambard index may prove misleading This is also possible from reflex action with catheterization of the ureters He compares the findings of the Ambard index with the course in 53 cases of prostate enlargement, 13 of calculi or tumors in the bladder, and 142 cases of kidney disease The index is a sentinel that warns when we are approaching the danger zone, but it does not take the place of the catheter for the ureters, these supplement each other, and enable the indications for nephrectomy to be materially extended

Delayed Healing of Fractures—Marsiglia reviews what has been published on the influence of endocrine glands on healing of fractures The experimental research to date has been done almost exclusively on young, still growing animals Thyroidectomy seemed to retard the healing of fractures, and thymectomy not only retarded but seemed to prevent healing Ovariectomy, on the other hand, seemed to hasten the formation of callus Marsiglia has repeated these experiments on adult dogs, and was unable to detect any retarding influence on the normal healing of fractures

Operative Treatment for Femoral Thrombosis—Fasano's patient was a man of 68 who had been having lancinating pains in the left foot for a month and there were signs of beginning gangrene Pulsation was evident below the femoral arch although the pains involved the whole limb The femoral artery was exposed and it was seen that the pulse wave stopped 3 cm below Poupart's ligament The artery was incised for 3 cm, 1 cm below this point This revealed an organized thrombus, compact and adherent to the vessel wall It was forced out completely by manipulations, and the blood spurted at once The artery was sutured The pulse became perceptible in the foot, but this did not last more than a day or two, but the pains subsided and have not returned during the ten months since and the gait is normal The thrombosis evidently extended or reformed below the field of operation but the removal of the accessible thrombus opened the passage into the deep collaterals The circulation in these was enough to insure the nourishment of the tissues and check the tendency to gangrene

The Stomach Tube Before Operating for Perforation of the Stomach—Gandusio and Pototschnig protest against the ban on lavage of the stomach before operating on a perforated gastric ulcer They advocate it as a direct advantage for both the patient and the surgeon The possible theoretical objections to it are disproved by actual experience They do not rinse out the stomach, but merely aspirate the contents

Resection of the Stomach for Perforated Ulcer—Gandusio's practical experience has demonstrated that when the operation can follow within two or three hours of the perforation, and the patients are young and in good condition, we need not hesitate to resect the stomach or duodenum and close the abdomen completely afterwards Three cases are described and the prompt recovery is emphasized The contents were aspirated as a preliminary measure The symptoms of peritonitis subsided so promptly and completely that bowel functioning was resumed in two or three days and the wound healed by primary intention In two of the cases the perforation was the first sign of the stomach affection

Chirurgia degli Organi di Movimento, Bologna

April 1922 6 No 2

Historic Precoces in Rizzoli Institute V Putti —p 109
Traumatic Luxation of Hip Joint in Children G Roello —p 119
Static Relations Between Foot and Knee in Paralyzed Leg V Putti —p 129
*Tardy Traumatic Ulnar Paralysis G Lusena —p 139
*Growth Exostoses P Sanvenero —p 165
*Loose Bodies in Joints A Pollidori —p 187
*Hemophilic Arthritis U Montanari —p 212
Hygroma of Subdeltoid Bursa A Avoni —p 233
Congenital Curvature of the Tibia L La Ferla —p 243
Congenital Malformation of Skull and Spine M Bertolotti and G Mattirolo —p 253
The Inventor of the Electric Thermoplore F de Raffaele —p 262

Traumatic Luxation of the Hip-Joint in Children—Roello encountered only three cases of traumatic luxation of the hip joint in children in a total of 1,463 cases of traumatic injury of bones or joints in ten years Two of these cases are illustrated here, and the promptness of the cure is

emphasized after reduction Both boys could use the limb normally five days after removal of the plaster bandage, about sixteen days after the reduction procedures

Tardy Ulnar Paralysis After Fracture—In Lusenti's two cases, the ulnar paralysis developed in a young woman and a man of 45 nineteen and forty years after the head of the humerus had been fractured in childhood with resulting tendency to valgus deformity In two similar cases on record the interval was fifty and fifty-seven years before the paralysis developed Electric treatment and resting the joint cured his first patient as likewise in Panis' case Neurolysis alone has seldom succeeded In Lusenti's second case, he resected the large pseudoneuroma on the nerve, and before suturing, shifted the nerve to a position in front of the humerus where it could be sutured without traction, and was protected against further strain

Growth Exostoses—Sanvenero describes a family in which round bunches developed on the long bones during the period of active growth In the father they were first noticed at the age of 12, and became large enough to show at 18, but did not develop further after 25 The exostoses cast a shadow like normal bones The daughter now 8, presents similar multiple bone growths The tendency to symmetry the large number, and the hereditary character distinguish these growth exostoses from those encountered in various diseases and after trauma In one family the exostoses in a boy of 4 are the miniature reproduction of his father's Marie has published two cases with several hundred exostoses of this kind The limbs may be of uneven length There are rarely any complications otherwise, in Sanvenero's adult case the use of one knee is hampered by the large exostosis in the popliteal space, but there is no nervous or vascular disturbance No medical treatment is of any avail, and if the exostoses are resected during the period of active growth there may be recurrence In Martel's case, the recurrence was in the form of a malignant tumor

Loose Bodies in Joints—Pollidori's review of the literature confirms that the origin of loose bodies in joints is still an unsettled question The knee is usually the joint involved, and in a case described in detail the traumatic origin of the two loose bodies was sustained by the history and by the microscopic findings The loose bodies became incarcerated at times, but aside from these periods the gait was not affected There had been severe trauma of the knee at the age of 8 and again at 10, but the first symptoms developed a year later At the age of 24 a separate incision was made to remove each of the two loose bodies and normal functioning of the joint was restored

Hemophilic Arthritis—Montanari has had 11 cases and knows of 3 more in which, without known cause, or insignificant trauma, the knee, shoulder, elbow or wrist filled with fluid, with ecchymoses in the vicinity Slight fever followed, and the condition was chronic the extravasated blood not being absorbed for months and then only incompletely In some of the cases the absorption was rapid and complete in a few days but a new hematoma soon developed Atrophy of the limb above followed, in one case the middle third of the thigh measured 8 cm less in circumference than its mate The roentgenograms showed nothing pathognomonic In 6 of the families the hereditary transmission of the hemophilia could be traced through generations four in one family This hemophilic arthritis represents an attenuated form of hemophilia, with a tendency to be outgrown in time Inherited syphilis was known in 2 cases, and was suspected in a third No attempt at operative treatment was made, extension was applied to combat contracture and the joint was immobilized in plaster The accumulation of blood can be tapped at need, followed by a compressing bandage and immobilization, and ovarian or thyroid treatment can be tried, or Weil's method of injecting blood serum every two months for years If ankylosis requires operative measures, they should be postponed until the tendency to hemophilia has been outgrown to some extent In 2 of the cases several joints were affected, but in 3 both knees alone, in another case the right knee and right shoulder The first disturbance was usually noted at the age of 5 or 6, and it kept to the same joint In one case recurrence thirty times had been recorded

Policlinico, Rome

May 1 1922 **29** Medical Section No 5

The [illegible] Syndrome F Sabatucci—p 235
Diabetes Insipidus P Biffis—p 286

Cocain Poisoning—Sabatucci urges the necessity for recognizing the clinical picture induced when cocain is first taken His study is based on an extensive experience, and he gives the details here of eighteen cases of acute and chronic types

Diabetes Insipidus—Biffis reports the exhaustive study of five cases of diabetes insipidus of years' standing He was impressed with the contradictory findings in the different cases

May 15 1922 **29** Surgical Section No 5

Ileus from Kinking of Small Intestine O Cignozzi—p 245
Chordoma of the Sacrum R Micotti—p 265
Postoperative Acetonuria T Laurenti—p 282
Surgery of the Papilla of Vater O Tenani—p 291 Cont'd

Kinking of Intestine from Membranous Pericolitis—The intestine was bound down by the long pedicle of a fibrous body that had developed during the pericolitis The inflammatory origin was beyond question In this class of cases the membranous pericolitis is liable to return, while with the congenital pericolic membrane, once removed, there is no recurrence It is important therefore to differentiate these two groups and with the inflammatory type take extreme precautions against irritating the tissues in any way, operating rapidly and leaving no raw surfaces and, perhaps, concluding by pouring in a little liquid petrolatum to ward off adhesion between the loops

Chordoma of the Sacrum—Micotti's patient was a man of 53 and he died a few days after removal of the malignant chordoma The first symptoms had been noted about three months before shortly after a trauma of the region, and the tumor rapidly increased in size It is the fourth case on record he says in men and only one case is known in a woman Exploratory puncture in his case differentiated the lesion before the operation Even when safely removed, the growth recurred *in situ* after an interval of four months and thirteen months in two of the cases, but metastasis was never known

Postoperative Acetonuria—Laurenti concludes from study of eighty five men and seventy-five women after various operations that acetonuria is almost constantly observed after chlorotorm and ether anesthesia and after spinal anesthesia, but it is rare with local anesthesia The acetonuria never seemed to have any influence on the postoperative course, and no connection was apparent with the nature of the lesion, the fever or the nature of the operation It disappeared almost constantly as soon as solid food was given after the liquid food of the first three to eight days He ascribes it to the strain of the operation

Deutsche medizinische Wochenschrift Berlin

May 5 1922, **48** No 18

Deficient Ejaculation Functional Asp rmatism Furbringer—p 577
Cathartics and Their Use in Medical Practice F Muller—p 580
Course of Infectious Diseases under Continued Deficient Nutrition A Sternberg—p 581
Clinical Experiences with Neo Silver Arsphenamin A Stuhmer—p 584
Prevention of Toxic Manifestations (Fever Cutaneous Inflammation) After Injections of Neo-Arsphenamin by Concomitant Administration of Calcium Bromid and Calcium Chlorid D Kennedy—p 586
Actinomycosis of Semilunar Ganglion and Actinomycotic Suppurative Leptomeningitis H Stahr—p 586
Kaup Modification of the Wassermann Reaction H Langer—p 588
Gastric Secretion and Diseases of Liver C Moewes—p 588
Genesis of Peptic Ulcers in Digestive Tract. Muller—p 589
Determinations of Hemoglobin Content (Sahli and Autenrieth Konigsberger) E Komiya and T Katakura—p 591
Yellow Dermography in Icterus J Schurer—p 593
Stethoscope for Blood Pressure (Korotkow) J Bamberger—p 594
Roentgen Ray Injuries S Möller—p 595
Affections of the Pleura G Ledderhose—p 596
Gynecologic Examinations H Freund—p 598

May 12 1922 **48**, No 19

*Porphyrinuria I Snapper—p 619
*Blood Pressure in Cardiac Patients with Dyspnea K. Frehse—p 621

Good Effects of Gymnastics on Children Exempted on Account of Weak Constitution or Asthenia W Kohlrausch —p 623
Silver Arsphenamin Old and New Hubner and Marr —p 624
Clinical Importance of Weichbrodt's Simple Spinal Fluid Reaction W Gotz —p 626
Acute Pyloric Stenosis after Benzol Poisoning W Hetzer —p 627
Rigorous Use of Cathartics in Dysentery T Hausmann —p 628
Causal Morphology and Practical Medicine G Ettisch —p 631
Affections of the Mammary Gland G Ledderhose —p 633
General Therapeutic Technic in Gynecologic Practice H Freund —p 635

Porphyrinuria, With and Without Colic—In explanation of the remarkable clinical picture of acute porphyrinuria, that is, severe abdominal colic with porphyrinuria, in which, after several attacks, death ensues amid neuritic manifestations Snapper sets up the hypothesis that in such cases a chronic poisoning damages first the retroperitoneal nerve ganglions and thus brings on colic and porphyrinuria Later, this intoxication affects the whole nervous system, and the patient succumbs under symptoms of polyneuritis Two cases are described, with the necropsy findings, in which there were no colic pains at any time The patients were two men of 21 and 29

Blood Pressure in Heart Disease with Dyspnea—Frehse examined for a period of a year and a half all the cardiac patients entering his clinic, and studied also the case histories of cardiac patients for five years back, with a view to ascertaining the relation to blood pressure of dyspnea in cardiac patients The histories of 700 cardiac patients constitute the basis for his statements There were patients with valvular lesions and muscular insufficiency, all grades of stasis, from the mildest form up to stasis with grave dyspnea cyanosis edema and exudate In the majority of these patients arterial pressure at the height of stasis was normal In 142 patients the maximal pressure was increased to 150 mm of mercury But the significant thing was that out of this large number of cardiac patients not a single case was found in which the high blood pressure seemed to causally connected with the dyspnea

Deutsche Zeitschrift fur Chirurgie, Leipzig

April 1922 **170**, No 5 6

Operative Treatment of Appendicitis 1 000 Cases Suermondt —p 289
*Rectitis and Its Consequences. W Smital —p 318
*Birth Paralysis plus Congenital Deformities A Schubert —p 343
Loose Bodies in Joints M Kappis —p 367
*Transfusion of Blood and Autotransfusion Goder —p 384
Arthritis Deformans of Elbow W Schulte —p 398
*Nonspecific Disease of Testicles and Epididymis F Mandl —p 416

Rectitis and Its Consequences—Smital analyzes the experiences in Hochenegg's service with 80 cases of inflammatory disease of the rectum and its sequels Only 21 were men and 15 were women of the 21 cases in which syphilis was responsible In the 17 gonococcus cases, 12 were women, as also 8 of the 11 tuberculous cases The consecutive strictures almost always required operative measures External rectotomy gave excellent results in the 12 cases followed to date out of the total 22 One of the 5 with extirpation of the rectum is in good health ten years later One woman was kept in good condition for two years by bougie dilatation, but then neglected it and required an operation Conservative measures are applicable only in the initial stage, and on suspicion of syphilis In 5 cases cancer developed later, but only in one instance in the rectum, in this case the carcinoma followed a year after colostomy for gonococcus stenosis of the rectum An endless thread method is illustrated which has proved extremely satisfactory A silk thread is passed from the natural to the artificial anus, and with this thread a long loop of tubing is pulled back and forth through the stricture The man does this himself, and the colostomy was closed except for the thread Defecation has thus been rendered possible by the natural route for sixteen years to date To dilate the stricture more effectually the tubing is reenforced with a smaller tube slipped inside To keep the thread from cutting the loop of tubing, a short segment of narrow tubing is strung on the anal end of the silk thread

Birth Paralysis—Schubert presents evidence that malformations and deformities are so common with birth paralysis that the latter must be regarded as of intra-uterine origin, and not the result of birth trauma as a rule

Transfusion of Blood and Own Blood Transfusion—Goder has compiled 52 cases in which the extravasated blood was infused, with recovery of all but one of the otherwise practically moribund patients He reports a favorable case from his own experience, and commends the procedure as harmless and life-saving Tubal abortion is generally the indication, but it has been applied with rupture of the spleen, of the liver, and with gunshot wound of the spleen and of the lung It is not necessary to defibrinate the blood, it is merely citrated and strained through several layers of mull lining the funnel

Chronic Nonspecific Orchitis and Epididymitis—Mandl assumed a tuberculous origin in three of his cases, and in two a needless semicastration was done In three of the cases a Bassini operation for inguinal hernia was evidently a factor, as the disturbances soon followed Epididymitis erotica may explain one case, and infection from prostatitis another, not of gonococcal origin

Jahrbuch fur Kinderheilkunde, Berlin

May 1922 **98**, No 3 4

Pigment in Skin of Children and Fetuses M Gonnella —p 123
Digestion of Protein in Infant Feeding O Heller —p 129
*The Differential Stethoscope G Kaulen —p 141
*Dysentery in Young Children G Piltz.—p 153
*Influence of Atropin on Young Children H Slobozianu —p 176
*Intestinal Neuroses in Infants Stargardter —p 189
*Heat Regulation in Infants with Deformities A Mader —p 195
Prodromal Eruption in Measles. F J Nothen —p 211

The Heart Sounds in Children—Kaulen discusses the findings with the Bock differential stethoscope in 248 children from 1 month to 14 years old

Dysentery in Children—Piltz contends that dysentery is much more common in infants than generally suspected It is highly contagious, and is often responsible for a part of the hot weather infant mortality The dysentery may run a mild course but may aggravate nutritional disturbance from other causes Complications in the form of pyelocystitis and pyelonephritis are comparatively frequent and of grave prognosis

Influence of Atropin on Renal Elimination of Salt and Water in Children.—Twenty tests were made on eight children, including six infants, all but two of the children had healthy kidneys Small doses of atropin seemed to stimulate the vagus and thus check the elimination of water and chlorids Large doses paralyzed the vagus and the output of water and chlorids increased

Intestinal Neuroses in Infants—Stargardter reports the cases of three breast fed and apparently normal infants who developed diarrhea, flatulence and colic for which no explanation could be found in the food or infection Formed stools appeared after four or five daily intramuscular injections of epinephrin, and the cure was complete by the eighth or tenth day in 2 of the infants, the other child had several relapses Probably intercurrent infections were responsible for this The benefit from epinephrin seems to stamp the dyspepsia in such cases as a sympathicotonic neurosis, if all other causes can be excluded and dietetic measures fail to relieve These children showed no signs that suggested the exudative diathesis, and after recovery did not display any tendency to nervousness

Heat Regulation in Infants—Mader discusses in particular the malfunctioning of the heat regulating apparatus in deformed new-born infants

A Pre-Eruption in Measles—Nothen cites 4 cases in which children convalescing from scarlet fever developed measles, and the actual measles eruption was preceded by a fleeting pre-eruption which came and went repeatedly within a few hours or days, shifting around, and showing all types of exanthemas, including rose spots, urticaria and purpura, as well as scarlatinal and measles eruption types It has little diagnostic value unless possibly giving a clue to measles in an otherwise puzzling case

Klinische Wochenschrift, Berlin

March 25 1922 **1** No 13

The Constitution Problem in Psychiatry J Kretschmer —p 609
Significance of Calories in the Theory and Practice of Medicine A Gottschalk —p 611
Bilirubin Formation in Surviving Spleen Ernst and Szappanyos —p 614
Use of Purin Derivates in Spasms S Hirsch —p 615
Favorable Experiences with Trichlorethylene in Trigeminal Neuralgia K Magunna —p 618
After Treatment in Laparotomy with Special Reference to Rehn's Semi Sitting Position C Rohde —p 619
Spina Bifida Occulta and Sciatica H Westcott —p 625
Relations Between Virulence and Rate of Increase of Infective Agents Doerr and Berger —p 628
Cultures in Vitro of Embryonic Tissues N Chlopin —p 628
Disturbed Epinephrin Formation in Suprarenals Pearce —p 628
Foreign Body Simulating Diphtheric Stenosis of Larynx Three Cases T Brandes —p 629
Reichmann's Syndrome in Tabes Dorsalis K Regensburger —p 631
Fundamentals of Present Day Management of Wounds W von Graefe —p 632
Healing of Injuries in Plants E G Pringsheim —p 638

Medizinische Klinik, Berlin

May 28 1922 **18**, No 22

Myopia A Elschnig —p 683
The Various Methods for Treating Wounds Sonntag —p 685
The Tonus Under Protein Therapy F Glaser —p 688
Sulfoxylatsalvarsan in Treatment of Syphilis J Fabry —p 690
High Blood Pressure F Kisch —p 691
Calomel in Treatment of Inherited Syphilis F Muller —p 694
Arc Light Treatment of Lupus etc A Fried —p 695
Case of Transient Tactile Agnosia Hillel —p 697
*Ether in Treatment of Whooping Cough Reim —p 698
Dosage in Deep Roentgen Irradiation F Nagelschmidt —p 698
Bioscopic Research on Antiseptics F Munter —p 698
Disease of the Prostate E Portner —p 700
Recent Literature on Stomach Disease W Wolff —p 702

What the Practitioner Should Know About the Causes and Treatment of Myopia—Elschnig remarks in conclusion that when a hereditary predisposition is suspected, the progress of the myopia can be checked by improving the general health, heeding physical anomalies, and treating inherited syphilis Special care should be taken not to strain the eyes (near work only with good light, not too strong etc), and glasses should be worn for near work Glasses for distance are of far less importance For some years he has ordered instillation of pilocarpin two or three times a week, evenings, and is convinced that this seemed to have a favorable influence on the progress of the myopia Atropin, he says, is useless or harmful

Variations in Vessel Tonus Under Protein Therapy—Glaser's research on the hemoclastic crisis was mentioned recently, June 3, 1922, p 1768 He explains the drop in the number of leukocytes after parenteral injection of a protein as a vagotonic manifestation—the expression of a brief anaphylactoid condition This brief vagotonic phenomenon may persist and become evident as the alimentary test leukopenia or hemoclastic crisis The leukopenia in this latter phase, he argues, is merely the manifestation of altered distribution of the leukocytes, from the change in the tonus of the vegetative nervous system He has witnessed the transformation of a sympathicotonic alimentary leukocytosis into a vagotonic alimentary leukopenia under the influence of parenteral injection of a protein

High Blood Pressure—Kisch has found the average blood pressure in men of 40 or 45 of medium strength and build to be about 140, and 5 or 10 mm mercury higher than this in larger and stronger men, fond of sports In women, up to 130 was the average before the menopause Transient hypertonia is common, and is liable to prove misleading Even in the healthy various factors may modify the pressure With pain from gallstones the pressure may keep high for weeks, and return to normal after removal of the cause of the pains Certain drugs, such as digitalis and pituitary extract send up the pressure In 3 cases of exophthalmic goiter in young women, the pressure was 145 and 150 but dropped by 20 and 30 mm as the hyperthyroidism improved In certain other cases of exophthalmic goiter the blood pressure was below normal This was the rule also in attacks of angina pectoris A single pressure reading is thus liable to be misleading in all patients With arteriosclerosis affecting the aorta in particular, the pressure was very seldom over 160 or 170 and the diastolic pressure was normal or only slightly above With arteriosclerosis of the peripheral vessels both the systolic and the diastolic pressure were higher, up to 180 and 200 was common But the pressure and the pulse alone with arteriosclerosis afford little insight into the severity of the process and the functional capacity of the heart There is also a sympathicotonic form of asthma with remarkably high pressure for which no explanation can be found The blood pressure was found very high also in a few cases of diabetes, a "nervous chromaffine diabetes with high blood pressure"

Carbon Arc Light Treatment of Surgical Tuberculosis—Fried reports from the Lupus Institute at Vienna that severe tuberculous lesions in bones and joints as well as lupus healed under the arc light treatment, alone or supplemented with roentgen ray treatment It was applied on the indications for and principles of heliotherapy In one series of outpatients severe processes in the knee healed without an immobilizing dressing and without appreciable impairment of function Caries of sternum ribs, foot and hand sometimes healed under the arc light alone An 80 amperes lamp was used or three lamps of 20 amperes each The latter allowed a larger number to be treated at a time It was impossible to foretell the cases in which treatment would be successful The organism may lack the reacting power necessary but these refractory cases should not deter from trying the arc light treatment for a few weeks or months in suitable cases No injurious by effects were ever observed, except occasional transient sunburn effects The aim was to tan the whole body the arc light 60 or 80 cm from the body the focus approached to 30 or 35 cm the sittings never over an hour and repeated three times a week The number of cases is not mentioned but this treatment has been regularly applied since 1915

Ether in Whooping Cough—Reim injected daily 1 c c of ether, with 0 05 gm camphor subcutaneously in treatment of infants and twice this amount in older children, in a recent epidemic of thirty-seven cases of whooping cough The course was mitigated materially in three infants less than three months old in the third or fourth week of the disease All bore the injections without apparent harm After five or six injections the paroxysms dropped from 18 or 24 a day to 6 or 8 His experience has convinced him of the value of this ether-camphor treatment especially in the early stages of whooping cough

Munchener medizinische Wochenschrift, Munich

May 12 1922 **69** No 19

The Idea of Function in the Term Disposition and the Morphologic Conception in the Term Constitution H E Hering —p 691
The Nystagmus Problem R Cords —p 693
General Considerations for Surgical Anesthesia G Schmidt —p 697
Local Anesthesia in Gynecologic Operations J Frigyesi —p 699
Experiences with the Kielland Forceps R. Zimmermann —p 700
Clinical Aspects of Periarteritis Nodosa Brinkmann —p 703
Capillary Analysis of Gastric Secretion (Holmgren) C H Lasch —p 705
Bladder Drainage with the Trocar K Nather —p 706
Resuscitation of Infant Apparently Stillborn P Klein —p 707
Successful Grafting of Hypoglossal on Facial Nerve W T Schmidt —p 708
Adjustment of the Light and Dark Field with Mirror Condenser in Leitz Apparatus H Rock —p 709
Colloidal Mercury and Linser's Mixing Syringe Forster —p 709
The Essential Basis of Constitutional Anomalies P Mathes —p 709
Treatment of Gonorrhea in the Female with Celluloid Capsule (Pust) S Lober —p 710
Errors in Dosimetry in Deep Roentgen Therapy K Frik —p 711
Treatment of Pertussis Klotz —p 711

Local Anesthesia in Gynecologic Practice—Reporting on results in the Municipal Women's Hospital in Pest Frigyesi emphasizes that nearly all gynecologic operations may be performed under local anesthesia The mortality is low and the patients are more comfortable after the operation Of 277 laparotomies, 101 were performed solely under local anesthesia and 96 under local anesthesia with the introduction of a superficial narcosis

Zeitschrift fur Tuberkulose, Berlin

May 1922 **36**, No 3

*Legislation for Prophylaxis of Tuberculosis F Kreuser—p 165
The Nature of Allergy and Anergy C Kraemer—p 174
Marriage of Consumptives Schaefer—p 180
*Operative Treatment of Pulmonary Tuberculosis H V Wagner—p 181
Analysis of Pulmonary Tuberculosis. E Guth—p 193

Legislation for Prophylaxis of Tuberculosis—Kreuser outlines the regulations which he would like to have adopted to provide for notification, welfare work, ways and means, etc, for a more systematic campaign against tuberculosis

Operative Treatment of Pulmonary Tuberculosis—Wagner comments on the prevailing trend towards operative procedures for pulmonary tuberculosis, and the more and more complete abandoning of surgery for bone and joint tuberculosis In each of these lines brilliant success is being realized If nothing eles is accomplished, the thoracoplasty usually dries up the source for contagion of others in incurable cases With bone and joint tuberculosis, almost as fine results are being realized from heliotherapy in the vicinity of Berlin as Rollier has reported from the Leysin mountain *climate In the Berlin experiences, the action of the sun*light was enhanced by reflection from water, keeping the patients on rafts The heliotherapy was also supplemented with means to induce passive hyperemia in the lesion, usually for four hours three times a day, with an hour's interval Each time, from 0 2 to 1 gm of sodium iodid is given internally before applying the band Bier assumes that the iodin is deposited in the region under passive hyperemia It promotes healing and counteracts the tendency to abscess formation under the heliotherapy No plaster casts are used, but extension is applied, and passive and active exercises, but never to the extent of inducing pain Bier's serial roentgenograms have demonstrated that even large sequesters are resorbed in time, the passive hyperemia seems to be responsible for this The long wave portion of the spectrum seems to be the effectual portion for treatment of tuberculosis In refractory cases, a change of radiant energy, a change of climate, the mountains or the sea may prove successful In conclusion, Wagner remarks that we smile at the nose rings of the African tribes, and the deformed feet of Chinese women, forgetting that we maltreat in the same way one of the most important organs of our body, the skin It is our protection against pathogenic organisms, our most important excreting and temperature regulating organ Our constant covering up of the skin hampers its functioning

Zeitschrift fur Urologie, Leipzig

1922 **16**, No 5

*Renal Hematuria A Schuppel—p 201
*Surgery of the Prostate B von Rihmer—p 214
Contrast Medium for Pyelography F *Gastreich—p 227*

Decapsulation of Kidney for Renal Hematuria—The decapsulation failed to arrest the essential hematuria from the left kidney in the man of 55, and the kidney was removed Incipient senile contracted kidney with sclerosis of the arterioles had been responsible for the hematuria Decapsulation is futile in such cases If internal treatment and roentgen-ray exposure of the spleen fail to relieve, nephrectomy should follow at once

Operative Treatment of Hypertrophied Prostate—Rihmer relates that the mortality was 31 per cent in his 121 cases of hypertrophied prostate treated by catheterization alone Aside from 31 with acute prostatic retention—who all recovered—23 died of the 95 being thus treated for chronic partial retention, 8 of the 16 with paradoxic ischuria, and 2 of the 5 with urosepsis The death rate is thus high with catheter treatment alone There were 5 deaths among the 18 uremia cases treated by cystostomy, calculi formed in some of the others, but a number are living in robust health six or seven years later All were cured in the 4 cases of chronic partial retention and in the 8 with total retention, all with some signs of infection In Alapy's series of 14 cases, cystostomy improved conditions so that operative measures became possible, with the recovery of 10 In 6 cases of severe prostatic uremia he operated in two stages, first reducing the uremia by cystostomy before attempting the prostatectomy The effect of cystostomy is prompter and more complete than from a retention catheter The bladder has to be emptied gradually with much distention The scar of the cystostomy may have to be resected later, but, with all its drawbacks, the two-stage Freyer operation saves many men otherwise doomed The indications can be much extended without increasing the mortality In the sclerosis cases—the so-called atrophy of the prostate—intra-urethral measures may be advisable, but recurrence of symptoms is liable

Zentralblatt fur Chirurgie, Leipzig

March 25, 1922 **49**, No 12

Technic of Appendectomy B Heile—p 394
Total Amaurosis After Procain Injection or Air Embolism? O H Petersen—p 396
A Diagnostic Symptom of Appendicitis A Gregory—p 397
Operation for Hypospadias and Defect of Pendulous Portion of Urethra A Fischer—p 399
'Is the Extirpation of Suprarenals in Epilepsy Justifiable?' Reply to Comment O Specht—p 402

April 1 1922 **49**, No 13

Semmelweis, Not Lister the Founder of Antisepsis F Bruch—p 426
Excision of Gastric Ulcer Danger Zone M Kirschner—p 428
'Sensory Fibers in the Anterior Roots' W Lehmann—p 435
Chronic Icterus Due to Compression by Tuberculous Gland Hubsch—p 437
Method of Counteracting Tension on Lines of Suturing Meyer—p 439
Tetanus Reactivation After Seven Years Comment Herz—p 440

Ugeskrift for Læger, Copenhagen

May 18 1922 **84**, No 20

*Estimation of Basal Metabolism A Krogh—p 525

May 25 1922 **84**, No 21

*Active Immunization Against Diphtheria L Juul—p 553
*Orthostatic Albuminuria During Pregnancy E Sylvest—p 563
To Aid in Blood Count E Meulengracht—p 757

June 1 1922 **84** No 22

*Experiences with the Steinach Operation K Sand—p 597 Concn No 25

Estimation of Energy Metabolism from the Respiration—Krogh describes a very simple apparatus which records the amount of oxygen consumed, and with as much precision as the gas analysis methods The recording spirometer contains a tank of *natronkalk* to absorb the carbon dioxid as the subject inhales and expels his breath, with a known supply of oxygen from an oxygen tank The diet is carefully regulated and the urine findings recorded He compares the data obtained by this means with Benedict's findings and Boothby and Sandeford's tables of basal metabolic rate determinations Absolute repose and relaxed muscles are imperative, and this renders the research difficult with children it may be necessary to give the child chloral or other sedative before the test can be properly applied

Active Immunization Against Diphtheria—Juul reviews what has been accomplished in Europe and America in this line guided by the Schick reaction, and he urges the adoption in Denmark of Zingher's method

Orthostatic Albuminuria Disappears During Pregnancy—The orthostatic albuminuria had been under supervision since the age of 10 Albumin was never found in the morning urine and no tube casts were ever discovered but albuminuria was found constantly in the afternoon urine except during the months of her three pregnancies at the age of 19, 23 and 27 No albumin was found at any time during gestation The albuminuria returned each time after delivery The absence of albuminuria on one occasion, eight days after the anticipated menstrual period had failed to appear was accepted as a sign of pregnancy, soon confirmed by other signs

Steinach's Rejuvenation Operation—Sand's article is continued, but in this instalment he reports favorable experiences from operative treatment in fifteen cases of premature senility or impotency or depression He thinks Steinach's principle is applied best by epididymectomy, resecting a segment, the farthest from the head of the epididymis, ligating and thermocauterizing the stumps all under local anesthesia, but with extreme care not to injure the delicate nerves and vessels necessary for the testicle

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THE NEEDS AND DUTIES OF DERMATOLOGY *

ERNEST DWIGHT CHIPMAN, M D
SAN FRANCISCO

As prelude to a strictly scientific program, it seems fitting that the chairman's address should deal with some of the more general considerations which concern dermatology as a specialty There are many topics deserving of careful thought, but nothing is more timely, perhaps, than a resume of our needs and duties

In a general sense, our greatest need is efficiency, and our paramount duty is service Efficiency and service are closely related, because the greater our efficiency, the greater our capacity for service

The question of efficiency should interest us with respect to both immediate and future requirements It were well that we plan somewhat for the dermatology of tomorrow, even while seeking to better that of today

We must all be aware of the growing sentiment toward standardization in the specialties We have been, and we are now, living in an age of self-styled specialists The specialist is as easily made as home-brew and is of equally harmful potential The only criterion of proficiency is recognition by fellow practitioners of one's own branch Such recognition may take the form of election to a national society This is not necessarily conclusive, for good men are sometimes passed by and indifferent ones chosen Under present conditions, the national societies have an opportunity of rendering infinitely useful service This, I believe, they are for the most part doing, but it is self-evident that, properly to function in this respect, they must resolutely avoid anything which savors of personal animosity, racial antipathy, nepotism or friendly predilection

The fact that specialism is entered so easily and through so many channels does not make for uniformity of standards Whatever may be said against a wider application of the elective system for the undergraduate medical students, it seems obvious that those who intend to specialize should be given the greatest latitude in their intern year

If the well-educated man is one who knows everything about something and something about everything, the well-trained specialist is one who knows everything about his own department and something about all the others So that, however zealously we may strive for perfection in one line, it must not be at the expense of broad general training Specialism of today is justly criticized on the ground of a tendency toward narrowness The reason for this criticism should be absolutely removed

Postgraduate colleges as conducted today undoubtedly perform valuable service The casual course of six weeks does not, however, equip one for a specialty What seems an urgent need is the designation by unquestioned institutions which will give the same standing to the specialist that the M D degree gives the general practitioner

What about our own case? Of course we need more efficiency We are quite conscious of our shortcomings And obviously, by the development of personal attributes, we may work to a higher plane of excellence But if dermatology as a specialty needs more efficiency, it needs also the means whereby it is to be attained We shall find those means when we find truth If we would be really effective, we must find the truth that so often is hidden from us

What is the truth about dermatitis herpetiformis, or psoriasis, or lupus erythematosus or vitiligo? What is the truth about many of the dermatoses which we bedeck with names that suggest so much wisdom and conceal such appalling ignorance? Our real, our urgent, our vital need is truth, to know what causes all these diseases with the long names

Our duty in the premises is apparent enough Both as individuals and as a section, we should do our utmost toward the solution of the problems of etiology, which constitute, today, our most serious handicap

There are many promising fields for research Among the external agencies, the part played by fungi has probably by no means been realized Concerning possible internal causes, we have gone through so many disappointing experiences with various hypotheses that the mildest suggestion of novelty in etiology at once provokes violent reaction

However much may be said in favor of a certain degree of enlightened skepticism, we must not, through fear of an overswung pendulum, allow the clock to run down We have need of open minds The truth that we are seeking will not be found in the reactionary spirit which mistakes enthusiasm for fanaticism, nor will it be found in the exuberant spirit of faddism Probably it will be found somewhere between the two

In our search for etiologic factors, we now have a list of possibilities, most of which belong exclusively to the present generation It is our duty to exploit them without preconceptions as to their validity I believe that it is fair to propound the following as worthy of complete investigation in every dermatosis of unknown origin focal infection, the sympathetic nervous system, the endocrine glands, protein sensitization and disturbed metabolism It seems not

* Chairman s address read before the Section on Dermatology and Syphilology at the Seventy Third Annual Session of the American Medical Association St Louis May, 1922

unreasonable to suppose that such investigation will add materially to our store of etiologic knowledge

Now, as to our duties Granting that our chief duty is service, we may consider it under three heads (1) service to individual patients, (2) service to society in general, and (3) service to the medical profession

The most valuable service which the dermatologist can perform for the individual is the interpretation of the cutaneous lesion Too often the careless view is held that the skin specialist is solely concerned with superficial lesions of cosmetic importance only It is true of course that many consultations are for the relief of relatively innocuous disorders, but it is equally true that many of the lesions for which relief is sought, in the belief that they are trivial, represent boundary posts on the frontier of serious disease

The interpretation of a given lesion may mean the simple diagnosis of some definite disease, or the recognition of some constitutional condition which, for the moment, is giving rise to no signs or symptoms elsewhere

In such serious conditions as the acute exanthems, precancerous or frankly malignant lesions, and the various forms of tuberculosis, leprosy or syphilis, the diagnosis practically carries its own interpretation There is a large group, however, in which slight cutaneous lesions may signify some grave constitutional condition It is here that we may perform service of utmost value to the individual, if we are complete and accurate in our interpretations

Some lesions point to diabetes, some to cardiac disturbances, some to pelvic disorder, some to the endocrines, and some suggest toxemia, the search for which leads to focal infection

The point cannot be made clearer, perhaps, than by taking, as an example, a case of lupus erythematosus I do not believe that we are doing our full duty in any case of lupus erythematosus in which we are content with a diagnosis plus even successful local treatment Lupus erythematosus is so definitely suggestive of toxemia that, whether it be from a tuberculous lesion or an infection in the antrum, we have not satisfied the moral obligation which we assume in taking the case, unless, in addition to the treatment, we take on the burden of interpreting the lesions in the most complete sense that available evidence allows If we find, for example, an infection of the antrum, we must assume that, whether or not it be in etiologic relation with the cutaneous lesions, it is a potential source of danger, about which it is our duty to advise It is only through the adoption of such an attitude that we can hope to give the same service that we would wish to receive were we in the place of the patient This, after all, would seem to be a fair criterion of service

The medical profession has definite duties to society, in which all the specialties must participate according to their respective abilities No obligation is more important than the conservation of public health Aside from work along broad lines of general preventive medicine, in various aspects of which dermatology is vitally interested, we can serve humanity to no better purpose than in the exposure of quackery

Quackery flourishes on nothing so much as on ignorance The fallacies of former generations concerning the nature of skin diseases still linger in the popular mind, which even today is prone to regard any eruption as evidence of impurity of blood or the stigma of personal or ancestral vice

These misconceptions make a particularly favorable soil for the development of quackery The desire for beauty is also a human weakness which is bounteously catered to in the exploitation of innumerable alleged aids to cosmetic perfection No one knows better than the dermatologist the heavy toll paid by the sufferers from paraffin oil injections, no one knows better the needless unhappiness from experiences with noxious hair dyes, hair removers and even hair growers

To us, the duty is clear It is simply the diffusion of truth In California, a good start has been made by a medical organization which is called the League for the Conservation of Public Health

One of its activities along educational lines is in cooperation with two daily newspapers which devote certain space to medical information Questions are referred through the league to the medical man who is deemed an authority in the subject involved These newspapers are also furnished with various medical articles written by specialists Both in Los Angeles and in San Francisco, it is now possible for the layman to obtain authoritative opinion or guidance concerning any medical problem Thus, our profession is attempting, in some measure, to fulfil its obligation to the community, with respect both to preventive medicine and to quackery

The duty of dermatology to the profession is cooperation While this is necessarily a reciprocal relation, we shall do our part by attempting to keep in closer touch with medicine in general, as well as by correlating our findings with those of internists and of specialists in other lines We owe it to the profession to make known in plain terms the significance of dermatologic lesions as we interpret them We need to write for the man in general practice as well as for our confreres in dermatology

We need to make of dermatology a clearing house for the subject of syphilis While we recognize the interest of the internist and the specialist in other branches, we must insist that the teaching and treatment of this disease is today, as in former times, an integral part of dermatology Before the development of the Wassermann test, there was never doubt as to the destination of a syphilitic patient. Because of the training of dermatologists in the recognition of the objective signs of the disease, the matter was by common consent left in their hands Today, syphilis is diagnosed in the laboratory and is treated by any or by all It is our duty to demonstrate such proficiency in respect to this disease that the profession at large will willingly regard it as belonging to dermatology

There is little need for recapitulation On the seal of Yale University is the inscription "Lux et Veritas" That phrase epitomizes, I believe, both our needs and our duties And for dermatology, my prayer would be that of David "O send out thy light and thy truth let them lead me"

391 Sutter Street

Hookworm Disease in Colombia —According to a recent report by Dr F A Miller director of the antihookworm campaign 53 390 persons were examined during the year 1921, 49,940 (92 per cent) were infected Treatment was given to 47,822, and 37,488 (78 per cent) were cured Up to May 31 1921, all the expenses were paid by the National Health Board of the Rockefeller Foundation but from June 1, 1921 the Colombian government will bear 20 per cent of the expenses The department of Boyaca and Santander del Norte have contributed $5,000 each to the expenses, and the department of Antioquia, $2 000

THE LIMITATIONS OF INTRAVENOUS MEDICATION *

CARL VOEGTLIN, PH D
Professor of Pharmacology, Hygienic Laboratory, U S Public Health Service
WASHINGTON, D C.

Therapy, as other branches of medicine, is subject to influences which, temporarily at least, tend to overemphasize the value of certain procedures However, the gradual accumulation of new knowledge concerning the value of these procedures usually brings about a clearer recognition of their limitations Of recent years, the practice of intravenous medication has come to the front to an ever-increasing extent, and, though by no means a new procedure, its application to the treatment of disease has assumed such proportions that it is both timely and important to consider for a moment the real merits and limitations of this form of therapy

Of course, it is utterly impossible to cover this subject exhaustively in a brief article All I can hope for is to point out some of the pharmacologic principles involved, illustrating them by a few examples, and to leave you in that healthful state of mind which demands proof in every instance before accepting claims in favor of intravenous medication First of all, let us inquire into the reasons for this tremendous increase in the popularity of intravenous injections, for, as in other matters, I believe that the historical development of any procedure often throws light on the cause of its introduction and later practice

HISTORY

Intravenous medication is not of modern origin, on the contrary, it antedates the discovery of the administration of remedies by subcutaneous injection An English student of this subject [1] attributes the discovery of intravenous medication to Christopher Wren, a professor of astronomy at Oxford University, who, in 1656, made experiments on dogs, and showed that medicines could be introduced directly into the veins without disastrous effect I believe that these experiments were the natural result of Harvey's discovery (1628) of the circulation of the blood, and they were probably devised to facilitate the rapid distribution of remedies in the body A year later (1657), the first intravenous injection was made on man, and this was followed by numerous attempts to treat diseases by this method with a great variety of drugs Crude empiricism characterized this period All conceivable substances were injected, indiscriminately A certain Dr Hale of Boston had even the curiosity to inject into his own veins castor oil in order to test its purgative effect Strange to say, he survived long enough to write down his experiences We may look with ridicule on these early attempts, but I dare say that future generations may find amusement in some of our present-day experiments

The modern application of intravenous medication began with Baccelli's [2] introduction of the intravenous injection of quinin for the treatment of malaria (1890) He advocated this method as a routine treatment, on the assumption that the drug is brought immediately into contact with the parasites, whereas, given by mouth, the time required by absorption would necessarily delay the action This was soon followed by Crede's [3] treatment of septicemia by means of intravenous injection of colloidal metals The reports of this period, as of the former, showed, however, that intravenous medication is not without danger, and consequently it did not come into vogue

About twenty years later (1910), the discovery and use of arsphenamin in the treatment of syphilis revolutionized medical practice in this respect Although this drug, given intramuscularly, produced a marvellous effect on the lesions, and caused the rapid disappearance of the parasites, it was soon realized that the local reactions at the site of injection were exceedingly objectionable, so, as a last resort, the intravenous route was chosen, and now, I dare say, millions of such intravenous injections have been given Hence, the intravenous use of arsphenamin and its substitutes has done more than any other single factor to popularize intravenous treatment Whereas, in former years, the average physician regarded an intravenous injection as a minor surgical operation requiring considerable practice and preparation, he now had to familiarize himself with this technic, and so it came about that intravenous injections were made on a fairly large scale by the practitioner Most of the respect for the ever-existing possibility of dangerous reactions resulting from intravenous therapy then vanished, in spite of the fact that careful observers, from time to time, voiced a warning against the careless and indiscriminate use of arsenicals by this route It is surprising, however, considering the enormous number of arsphenamin injections given, that the reports of untoward reactions have not been more numerous

THERAPEUTIC EFFECT

This demonstration of the relative harmlessness of intravenous arsphenamin injections has prompted physicians to apply this method within recent years to other drugs and to other diseases, principally on the assumption that intravenous injection is of necessity followed by a more powerful therapeutic effect than is administration of the drug through other channels The fact was forgotten that the intravenous administration of arsphenamin was simply an attempt to avoid pain and local reaction, and that it was not introduced in order to increase the therapeutic effect I want to lay particular stress on this point, as this misconception seems to be quite prevalent among physicians and pharmacologists, and it is largely responsible for the present popularity of intravenous medication I particularly call your attention to the data furnished by Fordyce, Craig, Harrison, Wechselmann and others which add assurance of the therapeutic efficiency of intramuscular and subcutaneous injection, and, during the last three years, we have been able to establish this fact by well-controlled experiments on animals, using a quantitative method Thus, we showed [4] that the parasiticidal effect of injections of arsphenamin and neo-arsphenamin given intramuscularly is as good as that of the same dosage given intravenously

That this should be so is not at all surprising in the light of some recent work of ours [5] on the mode of action of these arsenicals Arsphenamin of good qual-

* Chairman's address read before the Section on Pharmacology and Therapeutics at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Fortescue Brickdale J M Guy's Hosp Rep **58** 15 1904 Eggleston Cary Internat Clin **2** 130 1917

2 Baccelli G Tr Tenth Internat Med Cong **2** 138 Part 5 1890

3 Crede Berl klin Wchnschr **38** 941 1901

4 Voegtlin Carl and Smith H W J *Pharmacol & Exper Therap* **17** 357 (June) 1921

5 Voegtlin Carl, and Smith H W J Pharmacol & Exper Therap **15** 475 (July) 1920

ity we believe to be practically nontoxic per se, but, after its introduction into the animal body, there is gradually formed from it, by partial oxidation, an extremely toxic modification (arsenoxid), which exerts its destructive action on the parasites and, to a lesser extent, on the tissues of the host Therefore, we must regard arsphenamin as a drug which, after its introduction into the body, forms a depot of a potential drug When arsphenamin is given intravenously, the depot is more widely spread over the body than when the drug is given intramuscularly, where it remains localized for at least a short time Nevertheless, in principle, the intravenous injection establishes a depot just as does the intramuscular, and the foregoing experiments clearly prove that it matters little, so far as the therapeutic effect is concerned, whether this depot of arsphenamin is scattered all over the body or is confined to one muscle The active modification of the drug "arsenoxid" is formed in both cases, and it reaches the parasites continuously by way of the circulation It is this continuous stream of the active modification, to which the parasites are exposed over many hours, which causes their death

It having thus been shown that arsphenamin when given intravenously exerts no more powerful parasiticidal effect than when injected intramuscularly, and that the intravenous method was chosen in order to avoid local reactions, the question arises Are there any drugs which, under certain conditions, give better therapeutic results when injected intravenously? I believe that we must answer this question in the affirmative, as, for instance, when time is an important element in the treatment or when the drug is not sufficiently absorbed by other channels The intravenous injection of quinin in malignant malaria, of strophanthin in certain cardiac cases, of diphtheria antitoxin in severe diphtheria, is not merely advisable but is absolutely indicated as an emergency measure Under such conditions, the physician cannot afford the delay incident to the administration of these remedies through other channels

With regard to the efficacy of intravenous quinin injections, clinical observers agree that the action in extreme cases is more prompt than when the drug is given by mouth, and the patient's life may thus be saved However, as soon as the critical condition has passed, quinin should be given by mouth for the reason that the available evidence shows that malaria is not more readily cured by intravenous medication,[6] and this is supported by some recent findings[7] which indicate that about 90 per cent of the quinin injected intravenously in man disappears from the blood within one minute, and is stored in the tissues

Another example of the superior therapeutic effect of intravenous medication is the administration of salt solutions in severe hemorrhage

With intravenous medication, the dosage required to cause a certain therapeutic effect is, with several drugs, considerably smaller than if treatment is given by other channels Epinephrin, for instance, produces a much greater rise in blood pressure when injected into a vein than when given intramuscularly On the other hand, the pressor effect is much more prolonged in the latter case, on account of the more gradual destruction of the drug by oxidation If, therefore, we wish to counteract the depressing effect of certain drugs on the blood pressure, such, for instance, as arsphenamin, we choose the intramuscular injection of epinephrin in preference to the intravenous, and this principle holds for certain other drugs with symptomatic or etiotropic action In other words, gradual absorption counteracts rapid destruction and elimination of the drug, and hence insures prolonged pharmacologic action, which often is a therapeutic desideratum

COMMERCIALIZATION

What has been said concerning the superior value of intravenous medication with regard to the therapeutic effect is sufficient to raise a question as to the unscientific claims made by certain commercial interests who advertise a great variety of drugs put up in solution for intravenous use Most of these products have not been included in New and Nonofficial Remedies by the Council on Pharmacy and Chemistry, because they are sold under misleading claims regarding their alleged safety and efficiency[8]

SAFETY

We have so far considered principally the merits of the curative value of intravenous medication, but it is equally if not more important to inquire into the safety of this method of therapy

It is perhaps unnecessary to call attention to the various possibilities of injury to the patient which may follow the use of a faulty technic Asepsis is an essential requirement It is also perfectly obvious that care should be exercised not to inject any air, solid particles or oil droplets, on account of the danger of embolism However, this can be avoided by proper technic and, if necessary, filtration of the solution before injection Furthermore, it is clearly evident that care should be exercised not to allow any of the drug to escape into the perivascular tissues in case such solutions cause local irritation These untoward reactions are under the complete control of the physician It sometimes happens that thrombosis occurs in the vein, which usually makes it impossible to use this vein for future injections

It is, furthermore, of the utmost importance to realize that intravenous medication brings the drug into immediate contact with some vital organs, such as the heart and the central nervous system, and the drug concentration to which these organs are exposed is much greater, at least temporarily, than if the same dose had been given by the usual channels Now, concentration is an all-important factor in drug action All drugs, even the purest distilled water, are poisonous in higher concentration, and their beneficial effect is usually restricted to a range far below the toxic dose Several hundred milligrams of caffein can be given to dogs with impunity by hypodermic injection, whereas 5 milligrams per kilogram of body weight rapidly injected into a vein will cause death by cardiac failure It appears to me not at all surprising, therefore that serious reactions and even deaths sometimes occur from the rapid intravenous injection of such drugs as quinin, arsphenamin and its substitutes and strophanthin

To be sure, the chances for the occurrence of such deplorable results can be reduced, if not completely avoided, by a full realization of the principles involved, followed by logical procedure It should always be borne in mind that the rate of injection of any drug must be slow enough to give the blood a chance to dis-

6 Lane Clayton Malaria A Critical Review Trop Dis Bull **19** 93 1922

7 Ramsden W Lipkin I J and Whitley E Ann Trop M & Parasitol **12** 223 (Oct) 1918

8 Some of Loeser's Intravenous Solutions J A M A **76** 120 (April 16) 1921

tribute it as effectively as possible Theoretically, this can be accomplished by giving a relatively concentrated solution very slowly, or by using a very dilute solution No general rules may be laid down to fit every case, suffice it to say that the number of untoward reactions to arsphenamin have been very materially reduced by the now prevalent use of dilute solutions, given slowly by means of the gravity method Clinical experience in this matter has fully corroborated previous experiments made by Jackson and Smith [9] of the Hygienic Laboratory In these experiments, it was shown that the circulatory phenomena which ensue when an arsphenamin solution is rapidly injected into dogs can be avoided if the solution is given very slowly That this should be so is not astonishing, if it is remembered that the proper functioning of the animal body depends on a nicely adjusted equilibrium of the body fluids and also of the tissues

The application of chemistry and physics to the study of these equilibriums has taught us much in recent years We now know that the chemical composition of the blood and its physical chemical properties, such as osmotic pressure, hydrogen-ion concentration and colloidal state, are maintained with remarkable constancy and appear to be essential for physiologic wellbeing Some of the factors of safety which operate in the maintenance of normal conditions have been recognized The hydrogen-ion concentration, for instance, is kept at a certain level by means of the so-called buffer value of certain blood constituents, which neutralize any excess of hydrogen or hydroxyl ions introduced into the body It is this mechanism which protects us under ordinary conditions against alkali or acid intoxication, so that we can take with impunity a considerable amount of alkali and acid with our food Here again, however, we are forced to consider the rate of introduction A certain amount of alkali which is well tolerated when given by mouth may prove fatal when injected rapidly intravenously, and, as Jackson and Smith [9] point out, the acute circulatory reactions following the intravenous injection of alkaline solutions of arsphenamin may be largely due to the excess alkali, which may irritate the myocardium or the blood vessels

In this connection, I can refer you to some unpublished experiments by Dr M I Smith, which demonstrate the injurious effect of a rapid injection of sodium hydroxid He found that, in cats, approximately 0 25 c c of a normal solution per kilogram of body weight caused a precipitate fall of blood pressure and complete circulatory collapse These experiments may possibly be of significance in connection with the careless overalkalization of arsphenamin solutions It would, therefore, seem highly desirable to develop proper buffer solutions to use with arsphenamin

Again, as regards the colloidal condition of the blood, information is rapidly accumulating pointing to the danger involved from the injection of foreign colloids into the blood stream Only recently, a death has been reported from the intravenous injection of acacia,[10] a drug which was advocated, during the war, for combating severe hemorrhage and surgical shock Foster and Whipple [11] have also pointed out that acacia injections decrease the coagulability of the blood and the regeneration of blood fibrin, and Hanzlik and Karsner [12] have demonstrated the production of emboli and thrombi in the pulmonary vessels of guinea-pigs

In the earliest days of the use of arsphenamin solutions, Wechselmann discovered the so-called "Wasserfehler," an acute reaction of the patient due to the presence of bacterial protein in the water used for making the drug solution Moreover, Hunt [13] attributes the higher toxicity of freshly prepared arsphenamin solutions as compared with those which have stood or are heated for a short time, to the physical chemical properties of the former Colloidal reactions between the drug and certain blood constituents may very well be responsible for these phenomena Some recent work has shown that arsphenamin solutions approach the true colloidal state and it is obvious that in a neutral medium such as the blood, arsphenamin could not exist in true solution for the reason that the arsphenamin base is completely precipitated at the neutral point In the case of this drug, therefore, the conditions under which it is used for injection are of the greatest practical importance

Several instances have come to my attention, even recently, in which the physician used by mistake the hydrochlorid instead of the alkaline solution, with disastrous effect The injurious action of the hydrochlorid is probably due to the tendency of the hydrochloric acid of the drug to cause intra vitam precipitation of the free base or of a combination of the free base with blood protein Acids are generally known to cause an aggregation of amphoteric colloids such as proteins and arsphenamin, whereas alkalis tend to cause dispersion As a matter of fact, Joseph [14] has actually demonstrated the presence of such arsphenamin precipitates in the blood of animals injected with the hydrochlorid, whereas he failed to find them after the use of alkaline solutions of arsphenamin

Another possibility for the production of reactions may perhaps be found in the use of large volumes of solutions improperly adjusted as to osmotic pressure Hypotonic solutions of sodium chlorid given rapidly were shown, by Weed and his collaborators,[15] to cause a great and sudden rise in cerebrospinal fluid pressure Is it not possible that some of the symptoms which may follow the use of large amounts of drug solutions improperly adjusted in this respect and rapidly injected, especially under pathologic conditions of the central nervous system, could be attributed to sudden changes in cerebrospinal fluid pressure?

To sum up, it appears that a considerable amount of evidence has accumulated in recent years which indicates that the nicely adjusted equilibriums of the blood and those of the easily accessible tissues may be temporarily upset by intravenous medication, and this disturbance may give rise to undesirable symptoms and even cause death

These symptoms are due to various causes, some of which have already been clearly recognized In many cases, untoward reactions can be avoided by introducing the drug solution at a slow rate, which permits the protective mechanism of the blood and tissues to operate *efficiently*, whereas, *if the injection rate is too fast*, this mechanism breaks down, and symptoms appear as visible results of the disturbance of the chemical or physical equilibrium of the blood and tissues

9 Jackson D E and Smith M I J Pharmacol & Exper Therap 12 221 (Nov) 1918
10 Olivecrona H Acta chir Scandinav 54 1 1921
11 Foster O P, and Whipple G H Am J Physiol 58 393 406 (Jan) 1922
12 Hanzlik P J and Karsner H T J Pharmacol & Exper Therap 14 379 425 449 479 (Jan) 1920
13 Hunt Reid Some Factors Relating to the Toxic Action of Arsphenamin J A M A 76 854 (March 26) 1921
14 Joseph, D J Exper Med 14 83 197 1911
15 Weed L H The Cerebrospinal Fluid Physiol Rev 2 171 1922

Under certain pathologic conditions, this equilibrium is more easily disturbed I shall only refer to the increased possibility of producing reactions in case of diminished functioning of the excretory organs It is a common practice to test kidney function before and during a course of arsphenamin or its substitutes, for obvious reasons

In special cases, previous treatment with a drug which produces a cumulative effect has also to be taken into account In a case of malignant malaria which is treated intensively with quinin by mouth, it is decidedly dangerous to give the intravenous dose of quinin ordinarily recommended for this purpose without first allowing the patient to dispose of the drug previously given, and this is equally true of the arsenical treatment of syphilis, and of the intravenous use of strophanthin in cases which are under treatment with digitalis by mouth

Having seen that intravenous medication is not necessarily superior therapeutically to other modes of drug administration and having pointed out the numerous possibilities of injury to the patient inherent in this method, we should strive to simplify the technic of the administration of drugs wherever possible, in order to avoid the necessity of the injection of the medicament directly into the circulation The subcutaneous injection of morphin and similar drugs is an exceedingly simple procedure, which very often is left to the attending nurse Would it not be a great step forward if such drugs as arsphenamin or its substitutes could be given subcutaneously?

During the last year, in collaboration with Miss Dyer, Dr Johnson and Mr Thompson, I have studied such a preparation experimentally, and so far it meets all the essential requirements It is prepared from arsphenamin, formaldehyd and sodium bisulphite, its aqueous solutions are very stable and do not increase in toxicity on standing for twenty-four hours or on vigorous shaking Its parasiticidal effect is extremely constant, and it does not cause any local reactions if injected hypodermically The chemotherapeutic index or, in other words, the ratio between the curative and the maximum tolerated dose is as good as in the case of arsphenamin The drug is now being tested clinically, and, should our hopes be fulfilled, I believe that it will have a considerable effect on the practical problem of the control of syphilis, for it stands to reason that such a preparation would make it possible for physicians who have not the required experience with intravenous arsphenamin treatment to give the treatment in this simple manner, if necessary under the general supervision of an experienced syphilologist, as advocated recently by Stokes

DISEASE CONTROL AND PREVENTION

I believe that it should be emphasized in this connection that intravenous medication, of necessity, places decided restrictions on the treatment as well as on the prevention of certain diseases, on account of the more or less difficult technic inherent in this method Take, for instance, the problem of the control and eradication of syphilis, it surely stands to reason that a simple technic of treatment, such as the subcutaneous injection, would make it possible to put a larger number of syphilitics under the controlling influence of the arsenicals, and this would unquestionably help in checking the spread of this disease, and it might also assist in its eradication

Again, the practicability of the prevention of malaria by means of the oral administration of quinin rests exclusively on the fact that it is possible to produce a prophylactic effect by taking quinin tablets by mouth, and I doubt whether anybody would claim that the prevention of this disease could be made a feasible proposition if quinin had to be injected intravenously for this purpose Therefore, every effort should be made to render the administration of such drugs as simple and safe as possible, without, however, sacrificing their therapeutic efficiency Intravenous medication to my mind, will never serve this purpose, and will always have a more or less restricted field of usefulness

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THE REAL THINGS IN MEDICINE*

HUBERT A ROYSTER, A B, M D
RALEIGH, N C

The minimum requirements for a career in medicine are a preliminary education, four years in a medical school, and a license to practice While these requirements are indispensable, they are by no means sufficient Three higher attributes stand out as real elements that make for a successful physician, without these, real success in medicine is impossible brains culture and character

BRAINS

Brains are the alpha and omega of the man of medicine We all recall the artist who, when asked what he mixed his paints with, replied "With brains, sir" Not long ago when I was on the way to talk to college students on medicine as a profession, the wife of one of the faculty said "Tell them that the one thing they ought to have is brains" She had made my speech To begin the study of medicine without two good cerebral hemispheres thickly covered with a deep cortical layer is to invite failure No encouragement should be extended to those about to enter the profession of medicine or to those already in to continue, unless they are supplied abundantly with gray matter The misfits in medicine, as well as in other occupations, are due largely to a lack of understanding There are some in the cornfield who ought to be in medicine there are some in medicine who ought to be in the cornfield

The study of medicine bestows no more brains and adds not one cubit to the mental stature It provides only a few more implements of the mind to be used for good or for ill Unless the roots are deeply planted in the soil of real learning, the study of any science narrowly pursued takes away from the natural resources of the mind more than it puts in In other words, a finely endowed intellect is needed to carry on in the realm of science, to withstand its temptations toward the illogical, to keep clear headed in the midst of fact and fancy

Such endowment comes not from science itself, it issues permanently from a mind nurtured in the ways of thinking The handmaiden of brains, essential for the physician, is common sense, which is simply the ability to put brains to good account In the words of Holmes, 'Science is a first-rate piece of furniture for a man's upper chamber if he has common sense on the ground floor But if a man hasn't got plenty of good common sense, the more science he has the worse for his patient"

* President's address read before the Medical Society of the State of North Carolina Winston Salem April 25 1922

CULTURE

Make no mistake about culture Culture is refinement accuracy, poise, resourcefulness, it is not effeminacy, weakness, conventionalism, impracticability We have been getting too far away from the humanities, from classical education, from academic scholarship, if you please In the quest of science—and there is no nobler pursuit—we have set up utilitarian courses, called premedical and certainly premeditated, for the purpose of reducing to a minimum all those things which do not bear directly on the matter in hand, and swelling to a maximum those that are concerned in the material things of medicine In this we have left out the very bed rocks of learning the capacity to interpret the phenomena and the power to express the findings If the average trained laboratory worker in our country today has any weakness, it is his inability to convey his ideas, to put down what he has done, to express his results in terms clear and terse Generally his work surpasses his words And it is not the misfortune of the individual, but of the plan which essays to substitute scientific research for sound scholarship, to get the one without the other, when we may have both It is the common failing of the later generation of medical men that they do not write so lucidly or think so accurately as those just before them There are, of course, numerous and notable exceptions But the observation is probably correct and its explanation lies in the small stress placed on actual scholarship required of one entering the profession of medicine

We are living in an age of inaccuracy We are inaccurate in thought, in speech, in spelling, in writing We know a great deal, but do we know anything very well? Short cuts and practical preparation are the order of the day Language, the only medium through which thoughts are given out, has been almost forgotten Will it be considered very old fashioned if I should suggest that the neglect of the languages, and particularly the banishment of Greek may be responsible for our loose thinking and our lack of scholarship? The value of Greek for the medical student might be a theme for a discourse in itself If you should go over the evidence, you would be surprised to find how much medicine owes to the Greek language, what a very large number of our words referring to diseases, operations and organs are derived from the Greek—fully as many as from Latin And many of those coming through the Latin were taken originally from Greek "We suspect, too, that our men of science who are supposed to be opposed to 'so much Greek must study that language secretly or they assuredly could not name the tools of their own trade"[1] The chief advantage of the study of Greek is a training in accuracy, in the expression of nice shades of meaning, the very essence of a cultivated mind engaged in scientific thought We cannot divorce science and culture, we cannot go on rearing a race of seekers after truth who are not trained thinkers, we cannot fail to perceive that the education of a candidate for a learned profession means for us, as it has meant for all the older nations, a thorough grounding in the ancient and honorable arts and classics before we approached the special study needed for our dignified calling That way trod our great fathers, who outstripped us with the means at their disposal, that way lies our hope of elevation, of bringing back the well rounded medical man and adding to him the marvelous scientific attainments of the present age My thought was expressed by Thomas L Stedman,[2] in these words "Some day the pendulum will swing the other way and a new renaissance will once more join culture to knowledge to make the perfect physician"

CHARACTER

Detracting not one whit from the appeal for better mental equipment it appears even more timely to emphasize the greater need for moral qualification in the physician By this no reference is meant to righteousness or to worlds to come, to religion or to denominationalism, but only to the possession of a sound moral sense The character of a physician is his most priceless property It is what he stands for and whom he stands with, it is his attitude toward life, it is "what God sees him do in the dark" Truth is the goal, it develops character, and character tells in one's work Too many are entering the medical profession without good working consciences, without a keen appreciation of the difference between right and wrong, too many are coming into an honored and honorable calling with low standards of trade and traffic in their souls, too many get in who are not gentlemen to begin with and cannot be made gentlemen to end with Today the young physician too frequently feels compelled to ask his associates, 'What do I get out of it?" when he might better ask himself, "What am I putting into it?" Greatly to be desired is a stronger effort to train the moral perception of medical students They must be inspired toward a high-minded estate In the speech and bearing of graduates of certain medical schools can be recognized just exactly the outlook on life and the regard for our profession held by their teachers It is an unconscious percolation The fine sense of intuitive right-thinking and truth-loving can shine through both precept and example Morals cannot be legislated into people, but ideals can be educated into them

PREPARATION FOR THE PRACTICE OF MEDICINE

My tribute to science is the greater because of my contention for broader preparation before embarking in its service I heartily join with Moses Harvey in saying that 'science is teaching man to know and reverence the truth and to believe that only so far as he knows and loves it can he live worthily on earth, and vindicate the dignity of his spirit" Medicine is both a science and an art, it has to do both with knowing and with doing It is not an exact science—more's the credit, for exact sciences are inert and uninteresting But the one big asset for the medical man is the acquisition of the scientific attitude in his student days Every physician should remain a student the whole of his natural life A pitiable sight is the practitioner who was known as a 'good student" but who, after five years more or less, has degenerated into a routinist, never reviewing his former knowledge or adding to his original store Such a man, though perhaps skilled in so-called practical affairs, forgets more and more medicine each year, until finally it is difficult for him to keep up He begins to decry theory and to extol practice, he thinks only of results and never of causes, he speaks magnificently of "common sense" and letting Nature take its course," but rarely uses the one or permits the other

The trouble with this type of person is that he has never acquired the scientific spirit He fell short in the

1 London Saturday Review Aug 16 1913

2 Stedman T L A Practical Medical Dictionary New York William Wood & Co vii

early approach and missed the mental hole The eager student loves learning for its own sake and believes that no knowledge is useless, if it is correlated He understands that science is organized knowledge The scientific attitude means that nothing must be accepted unless it is known, that nothing can be known until it is approved, that everything shall be met in the spirit of hesitant belief This smacks of pessimism, and one poet at least has been led to exclaim

> O, star-eyed science! Hast thou wandered there,
> To waft us home the message of despair?

But nothing could be more unjust It is not despairing to search for the truth The challenge is, "How much do you know?" and "How can you prove it?" The doubting Thomas has a place here

What has no place in science is the *post hoc, ergo propter hoc* habit of mind It is the most dangerous of all doctrines for the medical man It is the rankest empiricism and furnishes the platform for all quacks and impostors "Whereas I was blind, now I see" is an insidious appeal to effects in utter disregard of the means—the cry of the charlatan Montaigne wrote that when a man is sick and gets well, he cannot say whether it was because of the remedies used, the lapse of time, or his grandmother's prayers It requires a powerful mental effort to get away from the belief that whatever happens after an event is always on account of it, but we must get away from this belief or we shall not retain our clear thinking

After all, it is the acquisition of knowledge which is enticing and inspiring, not merely the possession of it "If I held truth captive in my hand," says Malebranche, "I would let it fly that I might again pursue and capture it" And it is well to remember that not all the new is scientific, nor all the old empiric Science teaches us to unlearn many things each day and to relearn as many the next, for there is scarcely anything new except what has been forgotten

GROUP PRACTICE

A turn in the affairs of medicine is just before us Whether that turn will be toward new and untried fields or along some old and well-worn paths, the future —the near future—will determine The struggle is on between medicine as practiced by the private physician in the time-honored relation, and the practice by groups in a collective fashion No matter what may be the arguments on the one side or on the other, the situation will work itself out precisely in accordance with the desires of the public, the results of methods in use and the attitude of physicians

Owing to the multiplicity of technical detail and the accumulating mass of new discoveries in modern science, it is now more than ever true that no man diagnoseth to himself It was never true that any one man, looking at the patient through the peephole of his slender specialty, could compass a complete diagnosis, or that a cursory inspection in the old way by the ordinary practitioner would round out a survey of the case But always there has been a demand for the man who could find out everything there was to know about his patient, whether or not he himself could carry out all the detailed investigations and therapeutic indications The main reason for requiring assistance in the diagnosis of disease is the need for particular apparatus, in the use of which some are skilled, to elucidate findings not brought out by the general physical examination Thus grew up specialism and thus were developed instruments of precision But there never has been, and never will be, anything to take the place of cultivated brains and trained special senses This dual instrument, ready for instant and proper use, will be found as the principal equipment in the office of the real physician Hear a layman's view [3]

> The real pest among reputable physicians is the young man who expects his patients to pay for his needlessly high overhead expenses He may be known by his spacious and elaborate offices and waiting rooms, buttoned door boys sleek secretaries, fluttering office nurses and powder monkeys of both sexes and an all pervading shimmer of white enamel, mechanical novelties and glittering metal work Not infrequently the young practitioner who indulges in all these fripperies is trying to put over a poor piece by costly stage effects He sometimes forgets, and his patients still oftener fail to realize that what he really has for sale resides in his own cranium and that mere style, atmosphere and scenery are poor substitutes for knowledge, experience and technical proficiency

Unguided by intellect, instruments of precision become instruments of confusion, for they are not infallible and are wofully subject to the human equation Rightly used and rigidly interpreted, they mean much in proving a diagnosis, regarded as the only means in arriving at conclusions or depended on as unfailing agents, they are but disappointments Great pity should be felt for the inexperienced beginner who expects his microscope, his hemocytometer, his cystoscope, his chemical reagents and his metabolimeter to solve all the mysteries of diagnosis and to spell accurately the name of the disease If I should see any such, I would say "Let us first take a look at the patient, use our minds in obtaining his story, perform a laying-on of hands, after which we will ask for the aid of scientific apparatus which may either confirm or reject our observations And if the laboratory findings do not agree with the clinical signs, then so much the worse for the laboratory"

And what will become of our specialism? Where will it end? Will there be need for its regulation and control? Undoubtedly the existence of specialties is the proof of their necessity, and their development has been the crowning achievement of modern medicine But increasing subdivisions of specialism give us pause, so much so that by reaction we are beholding a newer specialist—the general practitioner He is in a class by himself, left in charge of those who are actually sick, with the issues of life and death on his hands, both early and late He is the keystone of the medical arch, without his support the whole fabric would fall, family after family are depending on him for counsel, relying on his judgment in every crisis Of what use are specialists unless there is the intermediary to say when they are needed? And since the general practitioner has by distinction become a specialist and expected to know a little about everything, why should not the professed specialist be required to know something of general medicine? One finds oneself somewhat in agreement with the recently suggested proposal that examining boards may require five years in general practice before allowing the privilege of going into a specialty How else may be curbed the tendency to divide the body into compartments for seclusive attention without a working knowledge of the whole system? These questions also will furnish their own answers

3 Saturday Evening Post

Many are rushing into group medicine as a solution of the whole matter Such practice brings to bear upon each case the combined study of a number of specialists, who, examining the patient individually, finally come together for establishing a complete diagnosis, or leave it to one member of the group to pronounce the judgment Work in groups has come to stay, for it is inevitable that men will associate for mutual help and encouragement Team work is the modern slogan, and it is the way to win the game But if the group discounts the individual and the individual forgets the patient, we have, not group medicine, but gang medicine, and their product is syndicated science, than which nothing could be more unscientific One very notable group clinic and several others of lesser fame and more recent date have served to popularize the combined method of practice, and diagnostic groups are springing up all over the land There are some with only two men in them (reminding us of the close corporations in which one partner is the president and treasurer, and the other, vice president and secretary) and others containing scores of men, there is the peripatetic clinic, in which taxicab fare is a considerable item, there are those conducted under one roof either of a separate institution or on one floor in an office building, there is the community hospital with its broad choice of consultants and naturally a subgrouping among these While there is much to be said in favor of any form of associated effort certain fallacies and dangers lurk in group practice Primarily it is well to recall that "a chain is no stronger than its weakest link," and unless the men on the team are of equal capacity in their several branches, the resultant report will be onesided There is danger, too, of everybody's business being nobody's business, so that the diagnosis produced may be a compound of the average forces of a factory, ground out piecemeal An impersonal mark is likely to attach to all such methods to rob the process of any human touch and to afford the greater chance of error, especially if the interpreter for the group sees the patient only for a short sitting on the last day of the ordeal Of necessity, the head of an important group is compelled to be a genius in his sphere, and all groups which have succeeded scientifically have had such heads

Free and frequent discussion has waged over the group question and its allied problems My feeling is that the group idea is one of the most useful modes of service in medicine But no group should be iron clad or unwieldy, its tendency to send out machine-made work should be changed into that of a hand-picked product, it should stop straining at gnats and swallowing camels, and learn that the group was made for the patient not the patient for the group Just as strongly should we realize that the practice of medicine will never—and should never—get away from the personal relation of patient and physician, and that always we shall depend for our health and our happiness on the daily visits of the physician from house to house,

> Battling with custom, prejudice disease
> As once the son of Zeus with death and hell

ADJUSTMENT TO CHANGING CONDITIONS

A spirit of uncertainty pervades our rank and file The existence of a subconscious fear that something or somebody will take away pristine rights, privileges and emoluments cannot be doubted Nor can it be denied that this fear is natural and justified by appearances What with welfare boards, full-time instructors in health, community service vital statistics laws, narcotic restrictions, prenatal clinics and the like, physicians have begun to feel that they are "preached to" overmuch, that they are "regulated" beyond endurance, and that their confines are being invaded Such expressions are heard in different quarters from time to time Much as we may sympathize with them, the truth is that the fear which they denote is unfounded We shall not lose anything unless we divest ourselves of it, we shall not have anything taken away from us, unless we prove unworthy to keep it, we shall not fail to receive any reward unless we sidestep the labor and the waiting necessary to secure it The only harm that can come to us is the harm we may do ourselves by sins of omission and commission The upsetting questions most of us are asking ourselves are What are we going to do about it? where will the encroachments cease? how shall we adjust ourselves to the inevitable conditions? I will tell you what we are going to do We are going to change to progress We shall go forward, we will meet and master every disturbing difficulty

I have appealed to the fellows of the various component societies to keep in mind the county as the unit of organization and to remember that, for our common interest, attendance is the keynote, and cooperation the watchword, I emphasized the importance of the district societies and approved of plans to conduct their meetings according to a definite program, regarding them as miniature state societies, I sought to dignify the position of councilor, to exalt the duties of this officer, representing as he does in his district the power and influence of the parent organization Finally, each member was urged to feel that the whole structure of organized medicine in state and nation hinged upon his own local status

CONCLUSION

I have an ideal to express for this society First, I would have it conform in every particular to the specifications set forth in Article II of the constitution adopted in 1903, which stated that "the purposes of this society shall be to federate and bring into one compact organization the entire medical profession of the state with a view to the extension of medical knowledge and to the advancement of medical science, to the elevation of the standard of medical education and to the enactment of just medical laws, to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of state medicine so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life" I would have this society embody these principles in the conscience of its every member, especially recalling the significance of the order in which the principles are presented, I would have it a place where righteousness reigns and no mean thing may live, I would make it a guild and not a trade union, I would keep it a haven where politics doth not enter and where selfish exploitation doth not corrupt, I would wish every one to think of not what the society is to give him, but what he is to give the society, I would want it a communion where freedom rules, where each fellow may have the aspiration and the opportunity to develop what is in him, but I would also carry its standard so high that we may

draw all men up to it and never for one moment trail its colors in the wretched dust of the unqualified and the unfit

We have every reason to feel encouraged My note is one of optimism If only we may glorify brains as the consummate need, if we reverence culture as a means of grace, if we set character above circumstance, then indeed shall we grow in capacity, refinement and virtue, assuming our rightful stations as devotees of a learned profession and champions of the real things in medicine We cannot fail, we cannot lag behind, if we serve these purposes May we not all stamp deep down in our minds and hearts the cheering message of our first president, the immortal Strudwick, who seventy-two years ago, gave voice to these lofty words

Neither the apathy of friends, the cold neglect and deep injustice of legislation, nor pampered quackery and empiricism can stay its onward course True medical science will like the majestic oak, withstand the shock and storm of every opposition It has been beautifully compared to a star, whose light, though now and then obscured by a passing cloud will shine on forever and ever in the firmament of Heaven

SIGNIFICANCE OF THE EXTRINSIC MUSCULATURE OF THE LARYNX

ITS RELATIONSHIP TO CERTAIN DISORDERS OF THE VOICE *

ELMER L KENYON AB, MD
CHICAGO

During the twenty-four centuries of historical knowledge of the developments in laryngeal physiology long periods, even of centuries, have elapsed during which no advancement in knowledge of the laryngeal function is known to have been recorded And it may not be without a useful purpose to note here that evidence is not wanting to cause one to wonder whether the laryngologist may not now be passing through one of these listless, or self-satisfied, periods with respect to laryngeal physiology An examination of numerous recent laryngeal textbooks and general physiologies seems to warrant such a fear One turns over the accounts of the physiology of the larynx in textbook after textbook without encountering any reference at all to physiologic knowledge of the larynx of the first importance, knowledge already nearly or quite a half century old Such neglect of the very bases of laryngeal knowledge can but serve to retard progress in certain phases of laryngeal therapy

If we are to understand the function of the larynx, it is first necessary to understand what the larynx is, both anatomically and physiologically The anatomic definition is arbitrary and limits the meaning of the term to the laryngeal box itself, including the epiglottis But a physiologic definition admits of no such arbitrary limitation The physiologic larynx must be defined as the entire physiologic mechanism on which the movements of the vocal cords depend

The laryngeal box is not only a suspended organ, movable upward and downward (through a range of about 3 cm) and in all other directions, excepting directly forward, to an important though limited degree, but it is movable only with, and as a part of, the hyoid bone, and the base of the tongue, and even of the lower jaw and floor of the mouth Particularly, the larynx, hyoid and base of the tongue cannot but be considered as a physiologic entity The larynx is suspended from the hyoid bone, the hyoid from the base of the tongue, the tongue from the lower jaw and the skull All three are intimately involved in a complicated musculature whose action alters their relationship to each other and to the fixed bony structure of sternum, spinal column and skull The component parts of this musculature are so numerous and the musculature is so complicated that a complete understanding of the combined movements requires much more investigation than has been undertaken up to this time But one fact is not hard to make out, namely, that all parts move together and in harmony to produce even the simplest attempt at phonation by the vocal cords They constitute definite factors in vocal cord physiology and all must be considered as belonging to the physiologic larynx

The first definite statement which I have found in the literature, conveying the thought that extrinsic muscular action is *always* an accompaniment of vocalization, is that made by John Wyllie,[1] in 1886 In discussing the mechanism of pitch production he says, "The position of the larynx varies with every note"

Reliable studies of the relationship of the extrinsic muscular action to the movements of vocal cords were made by Brucke,[2] in 1856 von Meyer,[3] in 1884, and John Howard,[4] in 1886, as well as by others

Nature approaches the problem of vocal cord action in no partial or haphazard spirit She approaches it rather with all the needs of vocal and musical physiology well in mind The demonstration of this truth lies in the fact that no central nervous plan of laryngeal action has been provided excepting that which compels the coordinating action of all the complex musculature of the larynx, both intrinsic and extrinsic We, as human beings, are not afforded a nervous control of the intrinsic muscular mechanism alone The nervous centers of vocalization which we may employ are only those which control the fifty or sixty distinct muscles, intrinsic and extrinsic, all of which must function for the simplest vocal act

The fact that combined action of the intrinsic and extrinsic muscular systems of the larynx is necessary for vocalization is further demonstrated by their instinctive united employment in producing the laryngeally produced crying sounds of the babe as he enters the world

Only by harmonizing these two great physiologic facts, the production of voice by the adjustment and vibration of the vocal cords, immediately due to the action of the intrinsic muscles, and the constant coincident extrinsic movements of the laryngeal musculature, is it possible to understand the physiology of the larynx

The immediate basis of vocalization lies in the manner of adjustment of the vocal cords to each other Definite adjustments of the cords for pitch production

* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Wyllie John *Disorders of Speech* 1886 p 475
2 Brucke Grundzüge der Physiologie und Systematik der Sprachlaute Vienna 1856
3 Von Meyer G H The Organs of Speech New York 1884
4 Howard John The Physiologic Basis of Artistic Singing Boston 1886
5 The motor centers for the speech function control at the same time the function of chest contraction and expansion If the muscles of the chest were included in the foregoing estimate it would be found that the action of approximately 100 muscles was required for the production of any manner of vocalization

through a range of about two octaves is required At the same time, definite adjustment of the vocal cords for the production of overtones suited to each voiced sound (if not also to each voiceless sound) must be provided When one realizes that the mechanism of adjustment for each voiced sound must be able to maintain itself through a long range of pitch elevation and depression, one may begin to comprehend the complexity of the required vocal cord adjustments They must be almost infinite in number Differences of tension of thickness, of adaptation of parts, of manner of vibration, must succeed one another endlessly None excepting a human mechanism could begin to have such complexity and diversity of action Each muscle, intrinsic and extrinsic, must play its related part, ever changing in action as the need changes, cooperating with a more or less strength of action, much as each instrument of a large and finely governed orchestra must adapt its action to the instrumental purpose of the whole

If one now also conceives of the other aspect of the production of speech and song, that of enforcing through resonance the sounds created in the larynx, and if he realizes that a part of the extrinsic musculature which is concerned with vocal cord adjustment is employed also for resonantial adjustments, one is in a position to realize the full complexity of this function The object of resonance adjustment is to so shape the movable walls of the resonance spaces as to adapt them, in size and form, to best reinforce the overtones already definitely produced in the larynx Thus, the base of the tongue and the hyoid musculature is ever conforming its action to the needs of the vocal cord adjustments, at the same time, never forgetting its relationship to resonantial adjustments

Certain larger principles of action of the extrinsic musculature of the larynx may be expressed thus

1 The extrinsic musculature may be roughly conceived as determining the larger relationships between thyroid and cricoid cartilages, and, thus, between thyroid and arytenoids, while the intrinsic musculature determines the finer adjustments of the vocal cords themselves

2 Each plan of adjustment between cricoid and thyroid alters the relationship of each of these cartilages to its next neighbors and requires new muscular adjustments to meet this alteration, and so on to the next neighbor, until the fixed bony structures have been reached Each muscle of the entire system must thus enter into the plan for any particular vocal cord adjustment

3 The entire suspended mechanism must be steadied with respect to each element in the series, and all must be steadied against the fixed bony structures

4 The question of resonance spaces for the various sounds of the language, as well as for musical purposes, must ever be given attention, in part by many of the muscles that require adjustment to the needs of action of the vocal cords themselves

The aphonic voice (which appears to correspond with the whispered voice) is also produced by the combined action of the entire laryngeal physiologic musculature Brucke was the first to point out that the whispered voice had its origin in the larynx While the exact action of the intrinsic structures of the larynx for the whispered voice is less clear than that for the loud voice (which also is largely a matter of surmise) it is evident, at any rate, that, while the mechanism of adduction is more or less in action, the mechanism which tenses the vocal cords is not in action The sound that is produced in the larynx in whispering is that of air passing over vocal cords, usually at any rate partly adducted, but not accurately stressed

The extrinsic musculature is likewise in action for the whispered voice, in general corresponding to the action of this musculature in the production of the loud voice, but in certain details differing from it The most striking difference in the action of the extrinsic musculature is its intensity of action (as determined by palpation) in the production of the loud voice as compared with its light action in the whispered voice But another striking difference is the uniformly high position of the thyrohyoid region in the production of the ordinary whispered voice, as compared with the low position in the corresponding loud voice

The high position of the thyrohyoid region required for the production of the higher pitched sounds, as compared with lower pitched sounds, whether loud or whispered is a matter of common knowledge Its explanation has received considerable attention and doubtless requires much more Its chief effect seems to be to tilt the thyroid cartilage on the cricoid, thus increasing the distance between the two ends of the vocal cords [4]

Normal adduction of the vocal bands is both neurologically and physiologically a very different procedure from abduction Physiologically, adduction demands action not only of the adductor intrinsic musculature but also of the entire extrinsic musculature Neurologically, it demands the innervation not only of the recurrent and superior laryngeal nerves, supplying the intrinsic musculature, but also of all the nerves supplying the fifty and more extrinsic muscles [6]

On the other hand, abduction consists simply in the relinquishment of the adductor activity, and the outward movement of the cords under action of intrinsic muscles alone Abduction depends, then, solely on the recurrent laryngeal nerve for its innervation

In explaining some practical diagnostic and therapeutic uses which a knowledge of the extrinsic musculature of the larynx affords, it may be said that these uses are founded mostly on two facts (1) that any large abnormal activity of the extrinsic musculature is determinable by palpation, and (2) that general determination of the management of this musculature is partly under control of the will

The pathologic aphonic voice may, as all laryngologists know, result from two main causes (1) local intrinsic conditions which prevent the approximation or else prevent the tensing of the vocal cords, although the general physiology of adduction be otherwise operating normally, and (2) failure of the cerebral centers for the loud voice to function In either case, the quality of the tone becomes whispered, or aphonic

Much confusion may be avoided in making the differentiation between these two pathologic conditions, if we bear in mind that the aphonic voice from central causes may be readily and definitely diagnosed by palpation of the thyrohyoid-base-of-tongue region, while the patient is phonating In case of aphonia from central causes, one may thus readily learn that

6 Not to speak of the nerves supplying the compressive muscles of the chest which must also act in harmony with the adductor mechanism

the mechanism for the loud voice is not functioning, but is being replaced by the mechanism for the whispered voice, while, if the cause of the aphonia is due solely to local intrinsic laryngeal causes, the extrinsic mechanism for the loud voice will be found by palpation to be operating, although the voice is whispered. One, of course, must be on his guard against the possibility of both causes, local laryngeal and cerebral, being in operation at the same time.

The falsetto voice of puberty, which is dependent on psychologic misconception, or disturbance, consists in the maintenance, by sheer muscular wrongness of action and overaction, of a strained speaking voice higher in pitch than can be normally produced by that particular vocal apparatus. The condition may usually be diagnosed by the thin, strained, monotonous, excessively high pitched quality, in connection with the history. But for confirmation and clarification of the diagnosis, especially if a doubt exists, and also for purposes of treatment, the external musculature of the phonating larynx should always be palpated. In the production of the normal voice, this mechanism acts with a free upward and downward action of the thyrohyoid structures, dependent on the sounds being produced, and the pitch of their production. But, in the habit tensed falsetto voice, these structures are held constantly and rigidly against the highly raised base of the tongue. The entire physiologic musculature is thereby compelled to operate under the handicap of a muscular mechanism steadily and rigidly overacting to produce a false high pitch. This faulty mode of action is readily diagnosed by intelligent extrinsic palpation.

The correction of the falsely produced voice in this disorder is dependent on the education and training of the sufferer to direct normally the physiologic muscular mechanism. In early cases, this is usually relatively easy. In cases of long standing, with the resulting weakness of insufficiently used muscles, and the fixedness of long habit, the return of the voice to normal requires both time and vocal knowledge. In any case, the consideration of the extrinsic musculature serves best as a basis for the training required for correction. The patient is taught to compare by palpation the action of the normal larynx with that of his own. With this knowledge as a basis, he is taught the art of lowering the position of the larynx while talking, as a concrete necessity for the lowering of the pitch.

In still another class of disorders of the voice, dependent on emotional causes (and not as yet, so far as I know, given a description or classification in the literature), one meets with a similar tendency to strained upward action of the elevators of the larynx, and here also, from both a diagnostic and a therapeutic standpoint, a specific knowledge of the extrinsic physiologic laryngeal musculature is important.

Finally, in dysphonia spastica, similar phenomena in the external musculature are observed, but in a more severe and uncontrollable form than in any manifestation of a similar disturbance. The moment such a patient starts to talk, a intense uncontrollable overaction of the elevators of the larynx takes place, constituting the dominating musculature feature of the disturbance. A concrete understanding, through palpation, of the faulty action of the extrinsic musculature has much the same diagnostic and therapeutic use and importance as in the habit-produced falsetto voice. I have recently succeeded in bringing about recovery in a case of this character (where recovery is very rare), through a plan of training, founded largely on teaching the patient how to control the extrinsic muscular mechanism.

The finer control of the voice, especially for artistic purposes, is dependent on three primary factors: (1) the maintenance, by trained action of the chest musculature, of a controlled and adequate air pressure against the vocal cords, (2) the trained coordination of the entire laryngeal musculature, extrinsic and intrinsic, to adjust the vocal cords to receive accurately and adequately the air pressure from the lungs, and (3) the accompanying adjustment of the same and related musculatures to so shape resonance spaces that they shall give proper resonance values to the sound vibrations produced by the vocal cords. Strength of muscle, accuracy of action and trained control, all to a definite end, are the needs. And the muscles thus employed are extrinsic as well as intrinsic. Delicate harmony of action of the entire vocal musculature is required. Consequently, relatively delicate disturbances even at a distance from the larynx itself, if they occur in the region of the extrinsic musculature, may disarrange the voice. For example, disturbed sensations confuse the speaker or singer, in his attempt to make the required delicate muscular adjustments. Adherent secretion in the pharynx and nasopharynx may seriously impair the vocal control.

Any manner of interference with muscle normality anywhere in the entire physiologic larynx may confuse the vocal procedure. For example, inflammatory edema of the pharynx, nasopharynx, base of tongue, or tonsils, by invading the muscle structure or by pressure on muscle, may serve to disarrange the physiologic laryngeal action.

SUMMARY AND CONCLUSIONS

1. The physiologic larynx includes all muscles, extrinsic as well as intrinsic, on whose movement vocal cord action depends.

2. The laryngeal box, the hyoid and the base of the tongue are closely involved in all vocal action.

3. The base of the tongue region especially is concerned not only with laryngeal action, but also, at the same time, with the shaping of reasonance spaces.

4. This complete complicated musculature has for its purposes (1) the production of endless differences in the manner of vibration of the vocal cords, and (2) the shaping of accurate resonance spaces for the reenforcement of vibrations produced in the larynx.

5. The action of the extrinsic musculature is discernible to an important degree by palpation of the thyrohyoid region.

6. Diagnosis of aphonia from cerebral causes is readily made by such palpation.

7. In the habit-produced falsetto voice, the high tension voice resulting from emotional causes, and in dysphonia spastica, a knowledge of the external musculature is important from both a diagnostic and therapeutic standpoint.

8. Physiologic normality of the voice, and especially of the artistic voice, is dependent on normally acting and cooperating individual muscles within the entire physiologic laryngeal mechanism, and abnormality of voice may result from disturbed sensation or disturbed action of muscles anywhere within this territory.

104 South Michigan Avenue

ABSTRACT OF DISCUSSION

DR. CHARLES G STIVERS, Los Angeles It is time to correlate and coordinate all of the scattered knowledge on the vocal functions into a more cohesive whole, that investigators may know where to look for the latest advances and enjoy that moral support which is essential to all workers in the field of human betterment The need for voice specialists is being expressed by our own members and by the laity—singers, actors, teachers of vocal expression and others, who feel from sad and costly experience with so called "vocal professors" and near-specialists, the need for the adequately trained voice specialist I recently heard a prominent oto-laryngologist say that the time would come when we would have as accurate an estimate of voice ability as is now possible in estimating the loss of hearing and to do so calls for a standard of sound The treatment of the falsetto voice of puberty resolves itself into a reconstruction in the patient's mind of his conception of how his voice should be produced It is really a psychologic approach and it affects a readjustment in the patient's mind, so that his voice becomes placed where it should be in the adult register

DR. LOUIS K GUGGENHEIM, St Louis I should like to ask Dr Kenyon just how he differentiates central from peripheral involvement by putting his hand on the patient's neck As I understand it he attributes the falsetto voice of puberty to the emotional state occurring at that period I believe it has been definitely proved that the falsetto voice of puberty is the result of definite changes in the tissues of the larynx chief among which changes is an edema This edema does not permit the full vibration of the cords but merely the vibration of the edge of the cords

DR JACQUES HOLINGER Chicago There is an answer to Dr Guggenheim as to the central cause of the difficulty of swallowing In bulbar paralysis the only symptom is difficulty in swallowing and, maybe, of phonation This may be recognized by watching the larynx during the act of swallowing or phonation or by putting a finger on it The larynx moves very little or not at all in cases of paralysis You have practically a diagnosis at first hand Bulbar paralysis in old people is not very rare, but I could not find in any textbooks that epidemic cerebrospinal meningitis in children should start with bulbar paralysis Permit me to give you a history I was called to see a girl of 11 who had been sick four days A brother 9 years old had been sick for several weeks with a cold' and was just recovering No diagnosis was made The girl talked indistinctly and had some difficulty in swallowing but sat up in bed and played She had an anxious expression and her temperature was 100 F I asked the child to phonate placing my finger on her throat She had a peculiar, monotonous voice In this, as also in swallowing some water, the larynx was not raised The water went into the larynx and had to be coughed up I suggested a lumbar puncture The suspicion of cerebrospinal meningitis was confirmed Flexner's serum was given but three days later she became unconscious and died I repeat that, at the time I first saw her there was no other symptom except the difficulty in swallowing and phonation It was very apropos that Dr Kenyon took this occasion to draw attention to this whole complex of throat symptoms They are not very frequent but when they are observed, they always indicate some serious central lesion They are very easily overlooked or misinterpreted

DR DENNIS J MCDONALD, New York I should like the author in closing to stress particularly the falsetto voice We all know there is a maldevelopment of the larynx which produces a thinning of the voice There is also a condition in the female in which the voice runs from D above the line a whole octave treatment for which by a great many of our teachers practically ruins the voice Many of these cases, I think are due to strain

DR ELMER L KENYON, Chicago That there can be no organic changes in the structure of the larynx at the time of treatment in most of these cases of high pitch maintained after puberty is perfectly clear, because under training treatment which is adequate, a voice high and strained comes to normal pitch and quality very rapidly I have no doubt there are exceptions, cases in which structural changes in the larynx have had some influence in bringing about an erroneous habit of producing a high pitch Indeed, a considerable portion of such children have had persistent "colds" during the puberty period, when the voice should have been changing The child whose voice is being trained for a singing voice and who is not taught at puberty that the voice must change in pitch and quality may struggle to maintain the childish vocal characteristics until a wrong habit has been formed Answering Dr Guggenheim's question as to the technic of the determination of the aphonic voice by palpation it is extremely simple if one only possesses a clear knowledge of how these extrinsic laryngeal structures act under palpation in the normal person He must know by palpation the manner of action and especially the vigor of muscular effort required to produce the normal (*a*) loud and the (*b*) whispered voice The loud voice requires muscular vigor of action causing vibration, the whispered voice clearly requires less vigor and less definiteness of muscular action The pathologic aphonic voice is apparently nothing else than the normal whispered voice substituted for the loud voice These differentiations are easily determined by one who studies the action of the extrinsic musculature under palpation As to Dr Stiver's suggestion that the falsetto voice is basically a matter of psychology, I perfectly agree Treatment is a matter of changing the person's attitude of mind with reference to his voice, it is a matter of teaching him that he handles his voice wrongly, and teaching him how he must handle it The use of this knowledge of the manner in which the extrinsic musculature acts under normal and abnormal conditions is an important detail in enlightening the person with the falsetto voice with respect to the fact that his attitude toward his voice production is wrong

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OTALGIA AND MASTOIDALGIA NOT INDICATIONS FOR OPERATION ON THE MASTOID PROCESS

REPORT OF THREE CASES *

HAROLD I LILLIE, M D
ROCHESTER, MINN

Otalgia and mastoidalgia, pain in the ear and in the mastoid region, referred in origin and not due to inflammation or new growths, have been encountered in our practice in cases in which operation on the mastoid had been either advised or performed It was quite apparent that the results, so far as relief of the patients' discomfort was concerned, had not come up to their expectations

The conditions causing this referred type of pain do not appear to be generally understood Wilson says, "In the ear, with its nerve supply from many sources, pain not only suggests the region particularly involved in the inflammatory process, but also makes a constant demand upon the physician to deal with referred pain and to interpret its significance" A careful examination of the mechanism of the ear with a head mirror and reflected light will eliminate the idea that inflammation causes the pain in the ear and mastoid, particularly if adjunct information is derived from a careful study of stereoroentgenograms of the mastoid, and from laboratory examinations, including the leukocyte count, and so forth

* From the Section on Otolaryngology and Rhinology Mayo Clinic
* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

It is quite true that the descriptions of otalgia and mastoidalgia in textbooks leave much to be desired A few paragraphs (not chapters), deal very sparingly, in well chosen words, with a subject worthy of much greater detail, a knowledge of which would be of great benefit to physicians and patients For those interested in a careful, detailed study of the sensory nervous mechanism of the ear and mastoid, Wilson's comprehensive article,[1] "Pain in the Ear and Its Diagnostic Significance," will be of interest Wilson says that, in the majority of cases, the pain is referred along the third division of the fifth nerve, less often along the second, and rarely along the first, that the most common seat is in the auriculotemporal nerve of the first division, and that, at times, the pain is referred to a posterior area, where no difficulty is found in associating it with the great auricular nerve

Recently, Sluder[2] has described the painful syndromes associated with disturbance of the sphenopalatine ganglion He deserves great credit for calling our attention to this syndrome, and, as a result, we have encountered fewer cases of this type in which the diagnosis cannot be made I have no doubt that the syndrome exists in his classic description I have observed it in several cases, but my observation has led me to believe it is not necessary that the entire syndrome, as described in the textbook, should be present before the origin of the pain may be diagnosed Frazier[3] has made a comprehensive classification of facial neuralgia It is probable that the type of painful syndrome under discussion would be classified in his fourth, or miscellaneous group, or possibly in his fifth group, in which are the cases of psychoneurosis or psychalgia

The three cases I shall report did not present the complete lower-half headache syndrome, and no direct causal factor for the discomfort was discernible, although careful investigation of the usual causes of reflex pain in the ear was made and each was eliminated

REPORT OF CASES

Case 1.—Miss M S, aged 17, was referred to the ear, nose and throat section of the Mayo Clinic in March, 1921, complaining of pain in the right ear and mastoid The trouble began six years before with severe pain in the right ear, without fever She was taken to a hospital, where a mastoid operation was performed within two hours of onset There was no discharge from the ear or mastoid, and the operative wound healed promptly Pain and tenderness, definitely worse every three or four months, had persisted during exacerbation, all the symptoms appeared worse at night Further operation on the mastoid and removal of the appendix had been advised to relieve the condition The tonsils had been removed

Examination of the ear, nose and throat was negative The right tympanic membrane was denser than the left, but the function of both ears was quite normal The right mastoid tip was tender Roentgenograms revealed no particular evidence of inflammation Roentgenograms of the teeth revealed that the third molars were unerupted, but not impacted The general physical examination and the neurologic examination were negative, but a diagnosis of migraine was made

The sphenopalatine ganglion region was cocainized, and the patient was immediately relieved The change in her facial expression was gratifying Subsequently, on several occasions phenol (carbolic acid) in liquid petrolatum was used in the epipharynx, and the patient remained free from the discomfort

Case 2.—Miss L B, aged 21, came to the Mayo Clinic in February, 1921, complaining of pain in the right ear and mastoid The trouble had begun in August, 1920 There had been no discharge Paracentesis had been performed, and the patient had been relieved of the pain for several weeks This procedure had been repeated In December 1920, the pain became so severe that sleep was disturbed Operation on the mastoid had been contemplated, but because there had been no fever and no increase in leukocytes it was delayed From the patient's friends, it was learned that she had been very precocious in her school work and was regarded as an unusually brilliant student She had never taken part in the social activities enjoyed by other girls

The patient did not present the facies of one who suffered severely The ears, nose and throat were not unusual, the sphenoid ostium on the right could readily be entered The right ear and mastoid showed no signs of inflammation, although the mastoid seemed slightly sensitive to touch The general physical examination was negative except for an adolescent goiter Roentgenograms of the teeth, and the neurologic and eye examinations were negative A diagnosis of migraine was made

The sphenopalatine ganglion region was cocainized and the pain in the ear was definitely relieved for about an hour The application of silver nitrate and phenol in liquid petrolatum seemed to have little effect Finally, March 31, 1921 injection of the sphenopalatine ganglion with alcohol relieved the patient The relief was not immediate, but was complete in a weeks time

The patient returned to the clinic in July, 1921, with a frontal headache, but pain had not returned in the ear and mastoid

Case 3.—Mrs C B V, aged 42, was examined in the Mayo Clinic in August, 1920 and was found to have gallbladder trouble Operation was performed and she was relieved of the symptoms She had had headache since adolescence especially before the menstrual period Her one pregnancy had terminated at three months

Clinical and laboratory investigations proved to be negative except that roentgenograms of the chest revealed an old intralobar pleurisy The patient was seen again in December 1920, and examination revealed no further positive findings

In April, 1921, the patient was referred to the ear, nose and throat section complaining of paroxysmal pain behind the right ear, sometimes also in the throat, for which she had been advised (elsewhere) to have a mastoid operation

Examination revealed apparently negative tonsils and a low grade granular pharyngitis The septum of the nose was deflected, with considerable obstruction on the left side The membrane was undergoing a secondary physiologic atrophy The right side of the nose appeared normal The canals of the ears and tympanic membranes were normal, as was function There was no definite causal factor discovered, although the intranasal and pharyngeal condition may have been contributory

The right sphenopalatine ganglion region was cocainized, and 10 per cent silver nitrate was applied The pain in the ear and mastoid was relieved and there has been no recurrence The patient was instructed with regard to the care of the nasopharynx and this, with the assurance that operative interference was not indicated, may have been a factor in the permanence of the cure

COMMENT

These patients did not present definite etiologic or causal factors for the sphenopalatine syndrome, all could be grouped definitely as nervous individuals, all were relieved of symptoms by treatment directed to the sphenopalatine ganglion Operation on the mastoid region previously had not relieved them of their symptoms I have no explanation for the temporary relief

1 Wilson J G Pain in the Ear and Its Diagnostic Significance Quart Bull Northwest Univ Med Sch **11** 211 221 1910
2 Sluder Greenfield Concerning Some Headaches and Eye Disorders of Nasal Origin, St Louis C V Mosby Company 1918 pp 272
3 Frazier C H Neuralgias of the Trigeminal Tract and Facial Neuralgias of Other Origin Impressions Derived from a Survey of 555 Cases Ann Otol, Rhinol & Laryngol **30** 855 869 (Dec) 1921

of the otalgia by paracentesis It seems that, before operation on the mastoid is advised, all conditions which might cause this referred type of discomfort should be investigated

ABSTRACT OF DISCUSSION

DR GREENFIELD SLUDER, St Louis During the past year we have made some observations in the clinic at Washington University as to the control of earache through the nasal ganglion or Meckel's ganglion In a number of observations and experiments we found that a large part of these cases have been controllable with cocain through the nasal ganglion The exception to that would be any condition in which one has reason to believe that cocain is not absorbed In the clinic, and in my own practice, we have found that the pain of otitis media, suppurating under pressure, can be controlled by cocainization of the nasal ganglion We have had some cases in which the landmarks on the drum were more or less obliterated, accompanied by tinnitus in which the pain was stopped and the tinnitus with it by anesthetizing the nasal ganglion Dr Lillie spoke of separate symptoms saying that the entire syndrome is not necessary During the year we have also determined that pain in the lower jaw from the surgical removal of teeth can also be controlled through the nasal ganglion and there is no anatomic explanation of how that may be The paper is interesting as to why the diagnosis of migraine should have been made

DR NORVAL H PIERCE, Chicago We older otologists believe that nonmflammatory otalgia is due to disease of the teeth in 85 per cent of cases, and as I grow older I have no reason for changing that belief In otalgia, of unknown origin we should always have a roentgenogram taken for unerupted teeth Dr Sluder's work in this direction is most interesting but the fact that otalgia can be relieved by cocainization of the region of the sphenopalatine ganglion does not establish the cause of the otalgia It merely blocks the nerve path between the point of irritation and the place to which the pain is referred

DR HARRY L. POLLOCK, Chicago We all have seen cases of impacted molars causing otalgia Three patients were operated on for mastoiditis before they came to us, and we discovered the impacted molars the removal of which relieved the symptoms completely But there are cases in which as far as we are able to determine, there are no underlying pathologic conditions which may cause these symptoms in which the pain is just back of the tip of the mastoid That is always constant in these cases The typical syndrome includes pain over the eye back of the ear in the throat and sometimes in the arm, but in very few cases do we get all these branches of the ganglion at one time The characteristic pain however is just a few centimeters back of the mastoid In many of these cases we find a low grade sphenoiditis causing the pain, and if we clear up the sinuses the trouble and the pain will disappear In many cases the pain comes on postoperatively and we think it is the result of the scar But in those cases in which the application of cocain would relieve the symptoms we are sure to get good results from the injection of the sphenopalatine ganglion They can be reinjected without danger In those cases in which this typical pain back of the ear is present and the application of cocain to the foramen does not relieve it, the injection will not do any good

DR LOUIS K GUGGENHEIM St Louis I shall report a case which may relieve Dr Pierce's doubt and also add a symptom violent throbbing in the ear This patient had no teeth She was 70 years of age and came to me two weeks after an attack of influenza At that time she was perfectly well except for violent pain and throbbing in the left ear This pain was in the region of the tympanic cavity and also in the mastoid and there was marked tenderness on pressure It was difficult to insert a speculum because the canal was so sensitive I found the drum membrane and canal perfectly normal in appearance, the nose and throat were negative For the moment I did not think of the sphenopalatine ganglion I gave the patient a prescription for codein and told her to take a dose every three hours Her daughter gave it to her every hour, without relief She came next day, very much depressed because the pain and throbbing had persisted I then thought of the nasal ganglion and applied 5 per cent cocain in that region Shortly after the speculum could be inserted without pain The patient slept all night without codein and returned the next morning entirely relieved As far as I know she has never had any pain or throbbing since that time

DR WILLIAM B CHAMBERLAIN, Cleveland I performed mastoid operations in two of these cases before Dr Sluder's work on the sphenopalatine ganglion appeared, otherwise I should certainly have tried cocainization In one case, a man aged 30 the roentgenogram was negative, examination of the mastoid and middle ear was negative The pain promptly disappeared after the operation, and he has remained free from pain ever since Needless to say, the mastoid was negative when I opened it The other case was in a girl aged 16 I made all the usual tests, and found the mastoid and the middle ear negative I performed a mastoid operation opened the mastoid thoroughly, and found it absolutely normal The interesting thing about this case is that the mastoid never healed, although it was normal, and of course absolutely aseptic technic was followed She ultimately fell into the hands of a surgeon who, fortunately, was a friend of mine He also tried everything to get this mastoid to heal and finally made a skin graft The mastoid, as far as my knowledge goes, has never healed, and the pain is still persisting I have never had opportunity to try out the cocainization of the sphenopalatine ganglion Another case, in which the pain was localized 2 inches behind the ear, was found to be due to an impacted tooth On removal of the tooth the pain was relieved

DR IVOR G CLARK, Columbus, Ohio In certain of the cases of mastoidalgia without definite pathology the pain in the mastoid is said to be greatly relieved by mastoidectomy I recall a paper by Dr Ayers in which he reported that it relieved several of these patients

DR. HARRY N MAYER, St Louis There is no discussion as far as I am concerned on the point that these headaches can be controlled by cocainization of the sphenopalatine ganglion I should like to suggest that in these cases the diet be looked into carefully to find out what these patients are eating—what they are doing that is not normal It has been my experience that some of these are acidosis cases and sodium bicarbonate and milk of magnesia has helped me effect a cure in some of these lower half headaches that did not respond to the application of cocain to the ganglion

DR. JACQUES HOLINGER, Chicago In several patients suffering from pain in the ear for many weeks we found, after long observations small pimples on the skin and surroundings of the mastoid, which on careful examination proved to be regular herpes zoster efflorescences Herpes zoster in that region is not so very rare, and causes the physician much difficulty of diagnosis and the patient persistent and prolonged pain The membrane and the function are found normal The pain was not increased on deep pressure on the process In two cases there was distinct relief after a mastoid operation These herpes vesicles are easily overlooked Herpes zoster may occur in other regions pertaining to our specialty in addition to the mastoid One patient suffered fearfully in the region of the frontal sinus Intranasal treatments did not help We recognized the real nature of the disease only after the whole head had been shaved, and the patient prepared for a frontal sinus operation according to Killian Large confluent herpetic areas were found sharply limited at the middle line I had treated the same woman two years previous for an acute frontal sinusitis The operation took place eight or ten years ago, she had no complaints since I see her sisters often

DR H I LILLIE, Rochester Minn In answer to Dr Sluder's question about the diagnosis of migraine, that was

made from the neurologist's standpoint, it was not our diagnosis These cases were chosen because none of the usual causes were found in this particular group That is, we had a large group of otalgias and mastoidalgias in which the contributory factors were easily found, but this was another group In that respect I may say that we used every differential diagnosis measure we knew of or could learn of, and we took pains to eliminate all the usual, and some of the unusual, causes for this syndrome

EXPERIENCE WITH CHAULMOOGRA OIL DERIVATIVES IN TREATMENT OF LEPROSY *

HOWARD MORROW, M D
ERNEST L WALKER, S D
AND
HIRAM E MILLER, M D
SAN FRANCISCO

The recent encouraging reports [1] on the treatment of leprosy with the esters of chaulmoogra acid in the Hawaiian Islands induced us to give the leper patients at the San Francisco Hospital the benefits of this remedy The extensive chemotherapeutic studies of Walker and Sweeney [2] at the Hooper Foundation of the University of California furthered our interest in the subject Only by their active cooperation has this work been made possible There have been from twenty to twenty-five patients with leprosy at the San Francisco Hospital for many years When we began treating these cases, we did not anticipate the publication of our findings The results, however, have been so at variance with our expectations and the impression obtained from the literature, that we feel some record should be made of them

EARLY USE OF CHAULMOOGRA OIL

Chaulmoogra oil has long been recognized as the best remedy in the treatment of leprosy Old Buddhist records in India of ten or more centuries ago refer to the improvement in infected persons after eating the raw chaulmoogra seeds In modern times, Dyer,[3] Heiser,[4] Hopkins,[5] Connell [6] and Hollman [7] have reported improvement and even cures due to the administration of the whole oil by mouth over a long period of time Marked gastric disturbances, and the length of time required to obtain results, made this mode of treatment unsatisfactory

To overcome these disadvantages, the mixture of chaulmoogra oil with other substances to make it suitable for subcutaneous or intramuscular injection was attempted The formula proposed by Mercado and Heiser,[7] consisting of chaulmoogra oil, 60 c c , camphorated oil, 60 c c , and resorcin, 4 gm , has been used extensively Heiser [8] reports the cure of twenty-eight patients by the use of this formula Hopkins,[5] McCoy and Hollman,[9] Armellini,[10] Bercovitz,[11] Coghill,[12] Hall,[13] Cadbury,[14] Connell,[6] Hollman and Dean,[1] and others report cures or improvement in cases after the use of this and other combinations

In 1916, Sir Leonard Rogers,[15] in India, reported the preparation of soluble salts of fractions of the fatty acids of chaulmoogra oil and their use intramuscularly and intravenously He made three preparations of the chaulmoogric acids containing fractions of the lower, the medium and the higher melting points The first preparation he called, arbitrarily, sodium gynocardate, the second, sodium hydnocarpate, as it contained a preponderance of hydnocarpic acid, and the third preparation, sodium chaulmoograte, as it contained more chaulmoogric acid than the other preparations The latter preparation formed sodium salts too insoluble for use unless combined with other substances After experimentation, he decided that the sodium hydnocarpate was more active than the sodium gynocardate It was found [16] that sodium hydnocarpate could be prepared more readily and in larger quantities from hydnocarpus oil than from chaulmoogra oil Rogers,[17] Cadbury,[14] Carthew,[18] Muir,[19] Peacock,[20] Connell,[6] Neve,[21] and others report the use of sodium gynocardate subcutaneously and intravenously with very good results Rogers [22] and Muir [23] report even better results with the use of sodium hydnocarpate

Rogers [24] tested the action of other oils with a large content of unsaturated fatty acids, namely, cod liver oil linseed oil Japanese sardine oil, and soya bean oil He found the cod liver oil preparation, called by him sodium morrhuate, to be most effective Advanced cases, treated with it, cleared entirely, and some patients who had ceased to improve with other preparations recovered completely when given sodium morrhuate intramuscularly or intravenously Rogers concluded that the preparation of these different oils may be used to advantage in the treatment of leprosy If a patient ceased to respond to one oil, the preparation of another oil should be substituted

Harper of India reports excellent results in the treatment of leprosy by intravenous injections of a mixture of chaulmoogra oil, sulphuric ether and iodin Muir [26] also reports good results by this method of treatment, but he believes that better results are obtained by the intramuscular or intravenous administration of a formula consisting of ethyl esters of the fatty acids of hydnocarpus wightiana, 1 c c , pure creosote 1 c c , camphor 1 gm , and olive oil, 2 5 c c

At the present time, Muir [26] is giving small doses of the ethyl esters of chaulmoogra acids intravenously at frequent intervals, with encouraging results

The ethyl and other esters of chaulmoogric acids were first prepared by Power and his collaborators in

* From the Department of Dermatology and the George Williams Hooper Foundation for Medical Research of the University of California Medical School

* Read before the Section on Dermatology and Syphilology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Hollman H T and Dean A L J Cutan Dis **37** 367 (June) 1919 McDonald J T and Dean A L Pub Health Rep **35** 1959 (Aug 20) 1920 McDonald J T and Dean A L The Constituents of Chaulmoogra Oil Effective in Leprosy J A M A **76** 1470 (May 28) 1921

2 Walker E L and Sweeney M A J Infect Dis **26** 238 (March) 1920

3 Dyer New York M News **87** 199 1905

4 Heiser Pub Health Rep **28** 1855 1913

5 Hopkins R New Orleans M & S J **69** 223 (Sept) 1916

6 Connell J Trop Med & Hyg **22** 37 1919

7 Mercado and Heiser Pub Health Rep **28** 1855 1913

8 Heiser V G New York M J **103** 289 (Feb) 1916

9 McCoy and Hollman U S Pub Health Bull 75 1916 p 3

10 Armellini Clinical Dermosifilopat d r University di Roma **35** 109 1917

11 Bercovitz Nathaniel The Hypodermic Use of Chaulmoogra Oil in Leprosy J A M A **68** 1960 (June 30) 1917

12 Coghill H S Ann Trop Med **11** 205 (Aug) 1917

13 Hall Trop Dis Bull **13** 13 1919

14 Cadbury W W China M J **32** 226 (May) 1918

15 Rogers Leonard Lancet **1** 288 (Feb 5) 1916

16 Rogers Leonard India J M Res **5** 227 1917

17 Rogers Leonard Brit M J **1** 147 (Feb 8) 1919

18 Carthew M India M Gaz **53** 407 (Nov) 1918

19 Muir E India M Gaz **53** 209 (June) 1918

20 Peacock P M C India M Gaz **53** 95 (March) 1918

21 Neve Report of a Conference on the Leper Problem in India February 1920 p 41

22 Rogers Report of a Conference on the Leper Problem in India, p 23

23 Muir Report of a Conference on the Leper Problem in India p 30

24 Rogers Leonard Lancet **1** 1178 (June 4) 1921

25 Harper in Muir s Handbook of Leprosy Cuttack 1921

26 Muir Handbook of Leprosy Cuttack 1921

1904, during their extended investigation[27] of the chemistry of chaulmoogra oil at the Wellcome Chemical Research Laboratories in London from 1904 to 1907.

Notwithstanding the previous preparation of the esters by Power and the ancient use of chaulmoogra oil in leprosy, Ludwig Taub of Elberfeld, Germany, obtained patent rights in Germany in 1909 for the preparation of esters of chaulmoogra acids and their use in therapeutics. This patent right was assigned to a German chemical company, which put the ethyl esters on the market under the trade name of "antileprol." A little later, patent rights were also obtained in Great Britain and the United States. Following the war, and the confiscation of German patent rights, the alien property custodian sold the rights of this patent in the United States to the Winthrop Chemical Company of New York, which is preparing and distributing the ethyl esters of chaulmoogra acids under the trade name of "chaulmestrol."

In 1919, Hollman and Dean[1] reported the preparation and use by intramuscular injection of the ethyl esters of fractions of the fatty acids of chaulmoogra oil for the treatment of leprosy in Hawaii. These acids were separated into fractions by fractional crystallization, and these fractions converted into their ethyl esters. Four fractions in all were used. Groups of cases were treated with each fraction. It was decided that the therapeutic agent in chaulmoogra oil was distributed through all four fractions. This work was later carried on by McDonald and Dean, and is at present under the supervision of Dr. H. E. Hasseltine of the United States Public Health Service.

In 1919, Hollman and Dean[1] reported the treatment of twenty-six cases for less than two years, eight (30 per cent.) becoming bacteriologically negative in this time. In 1920, McDonald[1] reported the paroling of forty-eight cases, and in 1921,[1] ninety-four more cases were added, making a total of 150 cases.

These patients had been treated with weekly injections of the mixed ethyl esters of the acids of chaulmoogra oil, with 2 per cent. of iodin in chemical combination. This was supplemented by capsules containing the fatty acids of chaulmoogra oil with 2.5 per cent. of iodin chemically combined, given by mouth three times a day. In 1921, McDonald[1] reported series of cases treated without iodin and without chaulmoogra oil capsules. He concludes that "the oral administration is by no means necessary," and "the role of the iodin is at most a minor one."

This extended and varied empiric use of chaulmoogra oil and its derivatives in the therapeutics of leprosy was put on a scientific basis by the investigations of Walker and Sweeney,[2] at the Hooper Foundation for Medical Research of the University of California, in 1920. It was demonstrated experimentally that chaulmoogra oil contains substances having a high bactericidal activity in vitro. This bactericidal activity was found to reside in the fatty acids of the chaulmoogric series, and to be a function of the carbon ring structure which is peculiar to the chaulmoogric acids. The bactericidal action of these cyclic fatty acids was shown to be specific against the acid-fast groups of bacteria, and to be inactive toward all other bacteria. Furthermore, it was demonstrated that other unsaturated fatty acids, notwithstanding the therapeutic claims of Rogers and his colleagues, did not possess the specific bactericidal activity of the chaulmoogric acids. From the results of this experimental investigation, it was concluded that the empiric use of chaulmoogra oil and its derivatives in leprosy was justified, and that its therapeutic effect was due to the bactericidal action of the chaulmoogric acids on *Bacillus lepræ*.

TREATMENT OF LEPERS AT THE SAN FRANCISCO HOSPITAL

In August, 1920, we began treatment of the lepers at the San Francisco Hospital, and they were under treatment up to March, 1922, when they were transferred to the national leprosarium at Carville, La.

Of a total of twenty-one cases, there were ten of the nodular type, six of the maculo-anesthetic type, and five of the mixed type. One had shown manifestations of the disease for two months, one for thirteen years, and the others for periods intermediate between these two extremes, the average duration of the disease was four and one-half years. Most of the cases were far advanced. The average period of isolation before beginning treatment was three years.

SUMMARY OF CASES TREATED

Case	Name	Age	Years	Type of Disease	Duration	Severity	Duration Treatment	Average Dose Cc	Condition
1	F. C.	22		Nodular	6 mo.	Moderate	3 mo.	3	Unimproved
2	W. H.	27		Nodular	5½ yr.	Moderate	3 mo.	3	Unimproved
3	L. C.	28		Mixed	5½ yr.	Moderate	2 mo.	3	Unimproved
4	T.	41		Nodular	6 yr.	Advanced	10 mo.	3	Unimproved
5	A. A.	34		Nodular	1 yr.	Moderate	3 mo.	3	Slight imp.
6	L. Y.	27		Maculo-anesthetic	3½ yr.	Moderate	5 mo.	3	Unimproved
7	M.	24		Mixed	3 yr.	Moderate	8 mo.	3.5	Slight imp.
8	G. H.	33		Nodular	3 yr.	Moderate	8 mo.	3	Unimproved
9	D.	37		Nodular	10 yr.	Advanced	12 mo.	3	Worse
10	S.	27		Nodular	9 yr.	Advanced	18 mo.	4	Worse
11	W. K.	24		Mixed	2 yr.	Moderate	17 mo.	4	Much imp.
12	Y. S.	45		Nodular	13 yr.	Advanced	9 mo.	3.5	Unimproved
13	T. L.	36		Mixed	4¼ yr.	Moderate	2¼ mo.	3	Unimproved
14	S. A.	53		Nodular	5 yr.	Advanced	13 mo.	3.5	Worse
15	J. F.	15		Mixed	2 yr. +	Advanced	5 mo.	1	Died during treatment unimp.
16	E. L. B.	71		Nodular	12 yr.	Moderate	11 mo.	4	Died pneumonia unimproved
17	F. W.	19		Maculo-anesthetic	3 yr.	Moderate	14 mo.	3.5	Slight imp.
18	G.	22		Maculo-anesthetic	2 mo.	Mild	3 mo.	4	Absconded unimp.
19	J.	29		Maculo-anesthetic	6 mo.	Mild	2½ mo.	3.5	Absconded unimp.
20	F.	4		Maculo-anesthetic	6 mo.	Mild	8 mo.	4	Unimproved
21	M.	40		Maculo-anesthetic	2 yr.	Moderate	4 mo.	3.5	Much imp.

We employed chiefly the ethyl esters of the total fatty acids of chaulmoogra oil in our treatment. The injections were made intragluteally at weekly intervals, and the dosage was varied according to the weight of the patient and the amount of local and constitutional reaction after the preceding injection. The injections were not supplemented by chaulmoogra oil orally, or by the combination of iodin with the drug.

Laboratory investigations of the chemotherapeutics of chaulmoogra oil and its derivatives, which are being conducted by one of us simultaneously with the treatment of these patients, disclosed that two other esters, the butyl and propyl esters, produced much less local reaction and pain than the ethyl esters or any of a large series of derivatives prepared and tested. Therefore, these two new esters were substituted for the ethyl ester in the later treatment of our patients, and two lepers were treated exclusively with these esters. The clinical results confirmed the relative absence of local reaction obtained in the animal tests, and the

[27] Power and Gornall, J. Chem. Soc. **85**: 851, 1904. Power and Lees, Ibid. **137**: 349, 1905. Power and Barrowcliff, Ibid. 884. Barrowcliff and Power, Ibid. **91**: 557, 1907. Power, F. B., Am. J. Pharmacol. **87**: 493, 1915.

therapeutic action appeared to be as good as that obtained with the ethyl esters

These twenty-one patients were under treatment for a period of from three to eighteen months, with an average of eight months Of these patients, a boy, aged 15 years, with advanced leprosy, died of the disease, one man, aged 71, died of pneumonia-leprosy

Fig 1 (Case 8)—No improvement after eight months treatment

unimproved, three patients in advanced stages became definitely worse, nine showed no improvement, two patients with cases of moderate severity were markedly improved, three with cases of moderate severity were slightly improved, and two patients with the disease in an early stage absconded after three months' treatment

None of these patients became bacteriologically negative during treatment but the nasal discharge in one case (Case 11) became negative after more than a year of treatment The accompanying table, case reports and reproductions of photographs illustrate the results obtained

TREATMENT AT KALIHI AND AT MOLOKAI

In consequence of the slow progress of most of these cases after treatment for fifteen months, it was decided to check up our results by a personal study of the treatment of lepers with the ethyl esters of chaulmoogric acids in the Hawaiian Islands During December, 1921, one of us had the opportunity to see all the patients at Kalihi Hospital, Honolulu, and practically all the patients at the Molokai Leper Settlement

There are 176 patients with lepra at Kalihi under the supervision of Dr H E Hasseltine of the United States Public Health Service These patients present all types of leprosy, from the earliest forms of maculoanesthetic to advanced nodular On account of all the very early cases of lepra in the Territory of Hawaii being segregated in Kalihi, that hospital is an ideal place for experimentation with the derivatives of chaulmoogra oil

The various preparations used in treatment are made at the University of Hawaii under the supervision of Dr A L Dean At present, both at Kalihi and at Molokai, the preparations are used without the addition of iodin The injections are given once a week, and until recently all injections were given into the buttock Since the early part of January, 1922, Dr Hasseltine has been giving a few patients small doses of the ethyl esters intravenously every few days The latter method has the advantage of being painless

Between 1918 and July, 1921, 150 patients were paroled from Kalihi, of this number, ten at least have died, a few have gone to other parts of the islands, and twenty (8 per cent) have returned to Kalihi for further treatment as the result of recurrence of active symptoms of leprosy It is likely that more of the paroled patients will show activity of the disease and will need further treatment

The present system of paroling patients and giving them weekly injections of the ethyl esters for a further period of two years is a good one It allows the patients to work, and with the continued medication there will be fewer recurrences, and many more patients are likely to be permanently cured

During the six months previous to January, 1922, there were but six patients paroled This small number of paroles indicates that the present authorities are using greater caution to prevent the discharge of arrested cases which are later liable to show exacerbations of leprosy There are many patients with an advanced stage of leprosy at Kalihi, probably fifty of whom are incurable with our present method of treatment, and many of these should be sent to Molokai

The settlement of Molokai contains 452 patients, and during 1921 more than 300 received treatment with the ethyl esters As no patients with leprosy have been sent to Molokai since 1919, it is quite evident that very few early cases are to be seen there, and of the 300 receiving treatment, few, if any, show indications of an early parole Dr William Goodhue, the physician in charge of Molokai Settlement, is conscientious in giving the injections, and hopes to see many of the milder cases cured

Fig 2 (Case 9)—Lesions more extensive after twelve months treatment

From conversation with Dr Heiser, Dr Trotter and many others who have had extensive experience in the treatment of leprosy, it seems to be the unanimous opinion that the present treatment with the esters is by far the best of any chaulmoogra oil treatments so far advanced From bacteriologic studies and from clinical symptoms, it seems probable that the present system of treatment will cure the early cases, especially in young subjects The advanced cases certainly improve in time, and it is possible that many of these will be cured after years of treatment Some of the advanced cases show little or no improvement after many months of treatment, and a very small percentage seem to do poorly under treatment

In our cases of leprosy treated in San Francisco, the discouraging results are undoubtedly due to the age

of many of the patients and the advanced stage of leprosy in most of them In the few early cases we have treated, we are satisfied that the present remedy is of great value, and from statistics gathered we are also of the opinion that the injections must be kept up for at least three years in the milder cases and much longer in the advanced ones

Fig 3 (Case 10) —Appearance of patient before treatment

Fig 4 (Case 10) —After eighteen months treatment lesions somewhat larger

Isolation of all advanced cases of leprosy in one leprosarium in Louisiana is an excellent plan Under government control and supervision these patients will receive much better treatment than when they were scattered in isolated county hospitals throughout the United States We shall watch with much interest the results of treatment in this national leprosarium, and particularly the effect of further treatment in our individual cases

REPORT OF CASES

CASE 1—F C, a man, aged 22 born in China, who had leprosy of the nodular type, of six months' duration, was treated three months with an average dosage of 3 c c There were large nodules on the brow and many small nodules on the cheeks, neck, chin and ears There was marked tumefaction of the lobes of the ears The trunk was normal except for a few pigmented macular areas on the back There were a few similar areas on the forearms and arms, and many miliary semiconfluent nodular areas around the wrists Tumefaction and pigmentation of the hands were well marked There was no muscle atrophy Compulsory treatment was discontinued after three months The leprosy was unimproved

CASE 2—W H, a man, aged 27 born in Canton, China, had leprosy of the nodular type, of five and one-half years' duration Treatment was given for three months with an average dosage of 3 c c There were alopecia and tumefaction of the brows, semiconfluent and confluent nodules on the nose cheeks, chin and ears, diffuse, ill-defined macular mottling over the shoulders, arms and forearms, and tumefaction of the backs of the hands There was no muscle atrophy or sensory changes Compulsory treatment was discontinued after three months The leprosy was unimproved

CASE 3—L C, a man, aged 28, born in China, had leprosy of the mixed type of five and one-half years duration The symptoms began six months before entrance The patient was under treatment for a period of two months, with an average dosage of 3 c c There was diffuse but not marked thickening of the forehead, brows nose and cheeks The ears were enlarged, especially in the lobes There was a geographic macular eruption on the neck, a coin-sized, well defined macular eruption on the trunk, anterior and posterior, diffuse macular areas on the arms and forearms multiple miliary nodules on the wrists and tumefaction of the hands a diffuse, leprous thickening of the right palm The ulnar nerves were moderately enlarged, there was thenar and hypothenar atrophy, especially of the right hand There were confluent nodules over the right elbow tip simulating xanthoma There were geographic areas on each thigh and nodules on the right buttocks The patient took treatment under compulsion, and discontinued it after two months No improvement was noted

CASE 4—T, a man, aged 41, born in Greece, had leprosy of the nodular type of five years' duration The patient was under treatment for a period of ten months The average dosage was 3 c c each week There was worm eaten alopecia of the scalp of six years' duration, simulating syphilis The eyes were normal, the trunk, thighs and arms clear, the cheeks shiny and red, with many telangiectases and comedones Small nodules and stains were scattered over the face The brows and lashes were gone The ears were enlarged and wrinkled The hands and forearms were nodular There was passive congestion in the hands, the normal lines of the palms were accentuated On the legs, around the knees, were deep, dark scars There were ulcers on each calf There were nodules and hyperkeratosis of the soles The condition in March, 1922, was more advanced

CASE 5—A A, a man, aged 34, born in India, had leprosy of the nodular type, of one year's duration Treatment was given for three months The average dosage was 3 c c There was alopecia of the brows There was thickening with scattered small nodules over the face, cheeks and chin The nose was broadened and flattened The trunk was practically clear There was marked tumefaction of the hands and feet, and considerable ulceration and secondary infection on the feet In March, 1922, all the areas were slightly improved The patient's general health was improved

Fig 5 (Case 10) —Back of patient before treatment

CASE 6—L Y, a man, aged 27, a Chinese had leprosy of the maculo-anesthetic type, of three and one-half years' duration

The patient was under treatment for a period of five months The average dosage was 3 c c The brows, nose and ears were normal There were confluent and diffuse macules on the face and neck A few chicken-egg sized anesthetic rings were noted on the chest The hands were distinctly claw-shaped, and all the muscles were atrophied The arms and thighs were covered with diffuse anesthetic, geographic areas Compulsory treatment was discontinued after five months, with the leprosy unimproved

CASE 7—M, a man, aged 24, born in Hawaii with leprosy of the mixed type, of three years' duration, was given treatment eight months The average dosage was 3 5 c c There were about a dozen discrete and comparatively flat nodules on the forehead, cheeks and chin confluent on the right cheek There was faint tumefaction of the ears There was a diffuse, confluent and semiconfluent macular eruption on the trunk and thighs Tumefaction was noted on the backs of both hands A few small nodules were located on the wrists and forearms There was no disturbed sensation or muscular atrophy Compulsory treatment was discontinued after eight months The nodules on the face were smaller The macular areas on the body were less distinct

CASE 8—G H, a man, aged 33, a Japanese, with leprosy of the nodular type, of three years' duration, received treatment for eight months The average dosage was 3 c c There were about two dozen small, flat nodules on the cheeks, lips and chin The ears were large, nodular and pendulous There was a faint, miliary, papular rash over the trunk and thighs There was tumefaction over the back of the hands The palms were dry, the normal lines increased After eight months' treatment, the patient complained of general malaise and severe pains all over the body a few hours after each injection The injections were discontinued The leprosy was unimproved

CASE 9—D, a man aged 37, an American, with leprosy of the nodular type, of ten years' duration, was given treatment for twelve months The average dosage was 3 c c There were discrete and confluent nodules over the entire face The nose and ears were ulcerated There was total alopecia of the brows The patient was blind in both eyes There was a diffuse, lichenoid, leprous dermatitis from the scapulae to the buttocks A similar condition existed on the buttocks with scattered nodules throughout There were crenated skin and lichenoid dermatitis on the thighs A diffuse and marked tumefaction was present on the backs of the hands and fingers In March, 1922, the condition of the lesions was more advanced

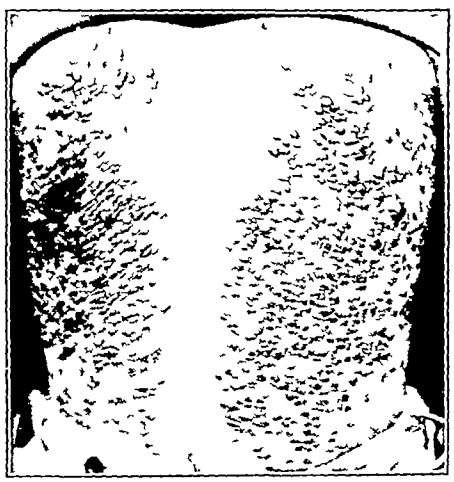

Fig 6 (Case 10)—After eighteen months treatment individual lesions smaller, but much more numerous

CASE 10—S, a man, aged 27, a Portuguese, with leprosy of the nodular type, of five years' duration, was treated eighteen months The average dosage was 4 c c Nodules from the size of a pea to that of a pigeon's egg covered the face Some lesions were almost pendulous A few ill-defined nodules were on the tongue and hard palate There were semipendulous and semiconfluent nodules over the hands and forearms, small nodules over the palms, and scattered pea to lima bean sized semipendulous nodules over the trunk. There was no muscle atrophy In March, 1922, the lesions were somewhat larger and more extensive

Fig 7 (Case 11)—Before treatment

Fig 8 (Case 11)—After seventeen months treatment most of nodules remaining are fibrous

CASE 11—W K a man, aged 24, with leprosy of the mixed type of two years' duration, was treated seventeen months The average dosage was 4 c c Pea-sized nodules were scattered over the forehead, cheeks, nose and ears Some areas were soft and some fibrous A few small nodules were scattered on the forearms There were geographic, cyanotic macules on the trunk, a chronic lichenoid leprid of the thighs, and solid edema of the backs of the hands The ulnar nerves were enlarged There was contracture of the little and ring fingers The nasal secretions contained many lepra bacilli These disappeared after one year's treatment In March, 1922, many nodules had disappeared, leaving pigmentation The remaining nodules were fibrous and apparently inactive

CASE 12—Y S, a man, aged 45 years, a Chinese with leprosy of the nodular type, of thirteen years' duration, was treated nine months The average dosage was 3 5 c c There were confluent, pea-sized, subcutaneous nodules over the entire face The nose was flattened and partially destroyed There were ulcerations on the nose, lips and cheeks There was almost complete alopecia of the brows The skin of the trunk was dry and scaly, with hyperpigmentation over the lower back There was edema of the backs of the hands and the feet Compulsory treatment was discontinued after nine months The leprosy was unimproved

CASE 13—T L, a man, aged 36, a Chinese, with leprosy of the mixed type, of four and one-half years' duration, was treated two and one-half months The average dosage was 3 c c A few faint indistinct nodules were seen on the upper lids There was considerable atrophy of the skin of the face, apparently the result of the absorption of leprous lesions Small cutaneous and subcutaneous nodules were grouped on both forearms There were pigmentation and crenated skin on the backs of the hands and contracture and atrophy of all the fingers on the right hand associated with marked anesthesia There was very little contracture or atrophy of the left hand The condition, after two and one-half months of compulsory treatment, was unimproved

CASE 14—S A a man, aged 53, an American, who had contracted the nodular type of the disease in the Philippines, five years before, was given treatment thirteen months The

average dosage was 3.5 c.c. The forehead was wrinkled and hypertrophied. There were about two dozen small nodules on the cheeks, chin and lips. The left eye had been removed two and one-half years before because of corneal involvement. The entire right eye was blurred, the pupil was irregular from synechiae. The entire body had a faint, wrinkled, pigmented, scaly appearance. The condition of the hands was similar, but more advanced. Very little if any, atrophy was present. In March, 1922, the patient was totally blind. The nodules on the face were larger. The general health of the patient was very poor.

CASE 15.—J. F., a boy, aged 15 years, a German, born in Honolulu, with leprosy of the mixed type, of probably two years' duration, was treated five months. The average dosage was 1 c.c. The patient weighed 50 pounds (22.7 kg.). There was total alopecia of the brows. The nose, ears, lips, cheeks and chin had been partially destroyed by ulcerating nodules. There were dry, faint, mottled and macular areas over the trunk and the extremities. There were tumefaction of the backs of the hands and contracture of the little fingers on both hands. The patient's general condition was much improved after two months' treatment, it became gradually worse however, and he died of the disease after five months' treatment.

CASE 16.—E. L. B., a man, aged 71 years, an American with leprosy of the nodular type of twelve years' duration, was treated eleven months. The average dosage was 4 c.c. The patient was blind in both eyes. The skin on the face was atrophic from absorption of nodules. There was a diffuse, leprous, lichenoid dermatitis over the back, abdomen and the sides of the body, a faint, diffuse, gyrate mottling over the chest and the thighs and crenated skin on the forearms. The backs of the hands were dry, wrinkled, crenated and bluish. There was no muscle atrophy. The patient died of pneumonia after eleven months of treatment, with the leprosy unimproved.

CASE 17.—F. W., a man, aged 19, a Chinese, with leprosy of the maculo-anesthetic type, of three years' duration, was treated fourteen months. The average dosage was 3.5 c.c. There was elephantiasis of the upper and the lower lip. On the face, neck and upper part of the back there were faint, ill-defined, macular areas. The toes and fingers were markedly contracted with considerable atrophy. Both ulnar nerves were definitely enlarged and nodular. The hands and areas on the forearms were anesthetic. In March, 1922, the macular areas were disappearing, otherwise the condition was unchanged.

FIG. 9 (CASE 12).—No improvement after nine months' treatment.

CASE 18.—G., a man, aged 22, born in the Philippines, with leprosy of the nerve type, of two months' duration, was treated for three months. The average dosage was 4 c.c. each week. The right ulnar nerve was about the size of a little finger. The right little finger was contracted. The side of the wrist and palm innervated by the ulnar nerve showed a brownish pigmentation with accentuation of the normal lines. This entire area was anesthetic. The patient absconded after three months' treatment with the leprosy unimproved.

CASE 19.—J., a man, aged 29, born in the Philippines, with leprosy of the nerve type, of six months' duration, was treated two and one-half months. The average dosage was 3.5 c.c. each week. Hyperpigmented and depigmented areas were scattered over the body. Half a dozen dollar sized rings were scattered over the buttocks and the back. There was slight tumefaction of the backs of the hands, with an accentuation of the normal markings on the palms. A similar

FIG. 10 (CASE 15).—Boy, aged 15, died of disease after five months' treatment.

condition prevailed on the soles. There were small ulcers on the great toes. The patient absconded after three and one-half months' treatment, with the leprosy unimproved.

CASE 20.—E., a man, aged 47, an American, with leprosy of the maculo-anesthetic type, had spent some time in Brazil sixteen years before. The duration of the symptoms was six months, the duration of treatment, eight months. The average dosage was 4 c.c. A palm-sized fawn-colored, anesthetic macular area was situated just above the left internal malleolus. After seven months' treatment erythematous macular anesthetic areas appeared on the upper lip and the right cheek. A few months after beginning treatment, the area on the leg was barely visible, at present however, it is about the same as at the time when the patient was first seen. After eight months of treatment, he complained of general malaise with pains in the muscles and joints that were so severe that they prevented him from working. Treatment was discontinued for two months.

CASE 21.—M., a man, aged 45, an Englishman, probably contracted the disease in South Africa. The duration of symptoms was two years. The disease was of the maculo-anesthetic type. He was under treatment for a period of four months. The average dosage was 3.5 c.c. Erythematous, macular areas were situated on the left chin, left temple and left ear. The left posterior lumbar region was covered with an extensive, erythematous, macular eruption. There was a small macular area on the right anterior wrist. The macular areas were all anesthetic to pin pricks, heat and cold. After one month's treatment the areas on the back and wrist became pigmented, and sensation began to return. At present, after four months' treatment, the pigmented areas are fading, and the skin is returning to its normal state. The areas on the face are involuting more slowly. There is general malaise, with pains in the joints and muscles of such severity that the patient is confined to bed for three or four days after each injection. Treatments were discontinued for three or four weeks. The patient was given sodium cacodylate injections during this rest period.

135 Stockton Street

ABSTRACT OF DISCUSSION

DR WILLIAM T CORLETT, Cleveland The paper is fair and comprehensive Its conclusions, however, may be a little too optimistic, but optimism, next to the actual curative agent, is the stimulus that the leper needs Since the parole system was adopted in the Hawaiian Islands in 1918 or 1919, the leper himself has received a new lease of life That the community is more endangered is another question He has felt that it is possible for him to become rid of the malady, which is a valuable curative asset in any disease As to the treatment of leprosy with the ethyl esters So far as I can ascertain, they bring out no beneficial properties not possessed by the old chaulmoogra oil itself—when the patient can take chaulmoogra oil But the crude oil is often irritating to the stomach, and many patients cannot take it. In such instances the intramuscular, or better, the intravenous, administration of the ethyl esters is a decided advantage The separation of the ethyl esters made available in 1904, or soon after, must be, therefore, considered a step in advance A few weeks ago when I left Honolulu, Dr Hasseltine, the marine and public health officer, was giving, when possible, the ethyl esters intravenously, and this to my mind will prove to be the future treatment for leprosy The use of the ethyl esters intramuscularly, into the buttocks, is painful, much more so than the same method of giving mercury Even when patients are willing to submit to it, there are disadvantages I recall two cases in which extensive abscesses followed this procedure, while the introduction into the veins is painless If the ethyl esters can be rendered sufficiently innocuous to be introduced safely into the veins, it would be the best treatment of leprosy so far as relates to the ethyl esters or the newer derivatives of chaulmoogra oil

DR R M WILSON, Korea I have 800 patients with leprosy under my care I have trained our lepers to do their medical work and use the microscope, as well as other laboratory work, and I am enthusiastic about chaulmoogra oil I believe that chaulmoogra oil is as good as the ethyl esters because it contains many things the ethyl esters do not We have been using chaulmoogra oil, 1 per cent, and for six months we have been using the ethyl esters but the ethyl esters have not affected the old cases treated by chaulmoogra oil Either the ethyl esters or chaulmoogra oil in a new case will show quite marked results in six months' time I think that in the cases shown this morning we could hardly hope to see much improvement, because the cases are so advanced The great hope is in the younger cases, particularly the children, who respond more readily We find in some cases that improvement takes place under hypodermic injections before the internal treatment is effective In our institution we have the industrial work pretty well established, these patients do brick and tile work, and they prefer to take the capsules internally and that seems to hold them in check Many cases are not entirely healed, but they are held in check I have 300 patients on the ethyl esters in Peking and 200 on chaulmoogra oil, and hope to report in a year's time which gives the best results These lepers come in literally crawling in the dust, feeling that they are dead dogs, and then when they come to realize that we can do something for them they are the happiest group you can find I am very enthusiastic about the ethyl esters, and believe there is no doubt that we can get splendid results in the early cases

DR I L MCGLASSON, San Antonio, Texas In San Antonio we have about thirty cases of leprosy, not that number under treatment, but that is about the number we have proved This paper is a wonderful article on the class they have attempted to treat, but I believe that the problem in leprosy is the same as in tuberculosis and cancer—there are cases we cannot touch I think that it is unfair to draw conclusions from the old and hopeless cases It is the early case in which we can do the most good I am going to advance another opinion, and that is that many cases are not recognized They occur not in the poorer class but in the better classes, and yet they are lepers The class in which we get the best results, in my experience, consists of early cases, when the patients are in fine shape physically and mentally I think the point is well taken by Dr Corlett as to the time when they will return A certain percentage will recur, which indicates that we have stopped treatment early We have no means of knowing when they can be discharged as cured and when they can stop treatment Whether this is the best treatment or not, we are on the right track to get a treatment which can offer something if we get the cases in time My experience is that in the + and ++ Wassermann reactions that cannot be substantiated clinically, if one will investigate the nose and the skin, one will probably find some evidence of leprosy Let us keep an open mind on this The cases in California were far advanced, and it would take a long time before they could be influenced by the ethyl esters or chaulmoogra oil, but in the early cases I am sure that a great deal can be accomplished, and many patients cured

DR ERNEST D CHIPMAN, San Francisco The cases reported were old, but I know from personal conversation with Dr Morrow that they have taken the cases as they found them and that they thoroughly believe in the efficacy of the treatment in early cases Dr Corlett, and I think Dr Wilson also, expressed the view that a very important feature in leprosy is the moral effect produced by the introduction of a treatment that gives the patients some hope I have had an opportunity of visiting the hospitals in Honolulu twice during the last few years, and have been much impressed with the apparent happiness with which patients faced their hospitalization Whereas in former times they made every effort to conceal the disease, they now come voluntarily for treatment

DR FLOYD STEWART, St Louis I had the pleasure of treating many of these patients with Dr Isadore Dyer of New Orleans Dr Dyer first began using potassium chlorate, sodium salicylate and strychnin He reported a case as a probable cure because all the lesions cleared up The patient was dismissed from the Charity Hospital outclinic, and was not taken to the leper colony At that time it was purely voluntary, there were no laws to transport these people, and this patient, a negro, returned to work, but in about eighteen months he came back for further treatment At that time Dr Dyer took up another treatment, called the "antivenin" treatment He purchased this serum from the Calmette Laboratory at Lille, France, and it gave remarkably good results at first Following this case we had several that showed improvement for a certain length of time, and then retrogressed Dr Dyer discussed the use of the antivenin serum, not on account of the cost, which he had defrayed himself, but because of the poor final results Then he took up this new treatment with chaulmoogra oil He was rather enthusiastic about the results he was obtaining I hope that Dr Morrow's results are encouraging enough for him to persist in treating these cases, and that he will succeed in curing the mild cases at least, for it is quite evident that when physicians and patients are enthusiastic about a remedy, better results will be obtained

DR EDWARD A OLIVER, Chicago We have had about seven of these cases under treatment in the Cook County Hospital and have been very enthusiastic about the ethyl esters Six were of the nodular type and one of the maculo-anesthetic type We first started on chaulmoogra oil, and then when we received the ethyl esters we used them There was no patient who did not improve, but they were only moderately advanced cases One patient was a Serbian, and he improved very rapidly, all of the lesions disappearing One man we have paroled now Every one of these patients improved mentally, physically and in every other way under the ethyl ester treatment

DR. HIRAM E MILLER, San Francisco In presenting this paper we had only hoped to moderate the impression that advanced cases of leprosy were being readily cured by the injection of ethyl esters over a comparatively short length of time However, I would like to emphasize the fact that we feel that early cases in young persons may be cured with the present methods of treatment

PHARYNGEAL INSUFFLATION ANESTHESIA*

ALBERT H MILLER, M D
PROVIDENCE, R I

In any system of ether administration by inhalation, a percentage of ether vapor is added to the tidal respiratory air and is carried to the pulmonary alveoli during inspiration On expiration, a part of the ether vapor is expired and wasted, the proportion of waste depending on the point in the respiratory tract to which the ether vapor has been delivered The points of delivery of the ether vapor in inhalation anesthesia, arranged in order of their efficiency are the bifurcation of the trachea, as in tracheal insufflation, the oropharynx, as in pharyngeal insufflation, and the nasal and oral orifices, as in the usual methods of anesthesia

ADVANTAGES OF PHARYNGEAL INSUFFLATION ANESTHESIA

When compared with the delivery of ether vapor to other points in the respiratory tract, pharyngeal insufflation has manifest advantages The introduction of the pharyngeal tube is a simple matter, takes little time and does not require a deep initial anesthesia After the introduction of the tube, the surgeon has a clear field for operations on the face, head, neck, chest and upper air passages No inhaler nor mask covers the mouth and nose The operation is not hindered by proximity of the anesthetist or of his appliances The constant flow of air into the pharynx provides for the requirements of respiration, and permits covering the face with sheets and towels without interfering with the respiration

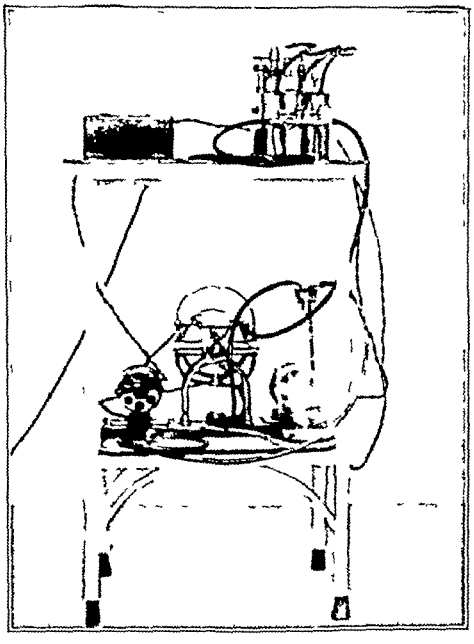

Fig 1—Apparatus for pharyngeal insufflation anesthesia Above rheostat for controlling speed of motor constant temperature ether vaporizer Below motor and air pump bottle connected with suction apparatus

APPARATUS

The essentials for satisfactory pharyngeal insufflation are an apparatus for delivering a current of air, capable of regulation up to 10 liters per minute, a vaporizer which will mix with the air current a constant percentage of ether vapor and which can be perfectly controlled as to the ether vapor percentage delivered, and nasal and oral tubes for delivering the ether vapor air mixture to the orophrayn x

Means for providing the current of air for pharyngeal insufflation are an air pump actuated by an electric motor, the speed of which is controlled by a delicate rheostat, or a tank of compressed air controlled by a reducing valve, or a foot pump If no means for controlling the speed of the electric air pump is provided, the foot pump should be chosen, as the rate of flow of the air can be roughly controlled by the speed at which the foot pump is worked The object of this apparatus is to keep the air in motion and not to produce positive pressure

The mixture of ether vapor and air is formed by injecting liquid ether regularly, in small amounts, into the air current, by atomizing or aspirating liquid ether into the air current, or by passing the air current over the surface of liquid ether in a container In the last of these methods, which is the one most commonly used, the rate of vaporization depends on the temperature of the liquid ether in the container As evaporation goes on, the liquid ether constantly becomes colder, with resulting diminution in the rate of vaporization and in the anesthetic dosage If the ether container is placed in a warm water bath of uncertain temperature, the result is uncertain, and may be either an overdose or an underdose of the anesthetic

The constant temperature ether vaporizer is designed to overcome the uncertainty as to ether dosage resulting from variations in temperature By means of an electric heater and thermostat, the liquid ether is kept at a constant temperature of 32 C (90 F) With a constant current of air passing across the surface of the ether, the percentage of ether vapor with air will also be constant An arrangement of valves attached to the vaporizer allows the entire current of air, or any fraction of the entire amount, to pass over the liquid ether, the remainder flowing directly through a by-pass By varying the percentage of the air current which is allowed to pass through the ether chamber, any strength of ether vapor in air, from zero to the capacity of the apparatus, may be obtained, and will be delivered constantly as long as the air current is maintained, the position of the valves is unaltered and ether remains in the container

The diameter of the ether container is 3 inches (7 5 cm), and the evaporating surface measures 45 6 square centimeters

With the thermostat set for 32 C (90 F), and the electric air pump delivering 5 13 liters of air per minute, the ether vapor strength is 60 per cent by weight and 29 per cent by volume, or 220 millimeters ether vapor tension The method of computation follows

Period, ten minutes

Volume of air, 51 3 liters, by direct measurement

One liter of air at room temperature, 20 C (68 F) weighs 1 205 gm Weight of air $51\ 3 \times 1\ 205 = 62\ 8165$ gm

Weight of ether vaporized, 38 27115 gm, by subtraction from total amount

Percentage of ether to air by weight, $38\ 27115 - 62\ 8165 = 60$

Formula for reducing percentage by weight to percentage by volume $X = \frac{32\ P}{32 + 83(1\ 00 - P)}$, when X is the percentage by volume expressed as a decimal, and P is the percentage by weight expressed as a decimal

Substituting 0 60 for P in this equation

$$X = \frac{32 \times 0\ 60}{32 + 83(1\ 00 - 0\ 60)} = 0\ 29$$

Twenty-nine per cent of 760 = 220, the ether vapor tension in millimeters of mercury

* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

The nasal tube is curved to fit the cheek, with the tip bent to enter the nasal orifice To the tip is attached a rubber tube about 5 inches (12 5 cm) long and one-quarter inch (6 mm) in diameter The oral tube is bent to fit the cheek, with the tip bent to enter the mouth, and has a similar rubber tube attached Since a single tube is sufficient, there is no advantage in the

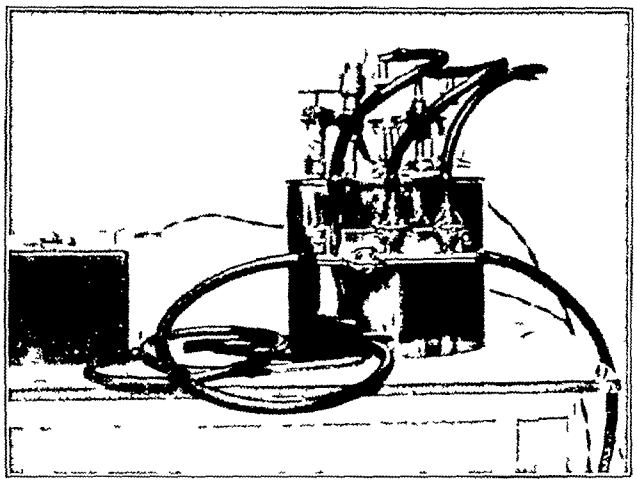

Fig 2—Constant temperature ether vaporizer water bath kept at a constant temperature by an electric heater and thermostat Woulfe bottle partly filled with ether valves mounted on water bath inlet to right outlet to left When all valves are in horizontal position as shown the air current passes through the by pass and carries no ether vapor This starting position cannot readily be mistaken

use of double tubes The rubber tip of either the nasal or oral tube reaches to a point in the oropharynx opposite the tonsils

TECHNIC OF ADMINISTRATION

Before the anesthesia is begun, the pump is started and set to deliver a current of air of from 6 to 10 liters per minute If the amount of air delivered is not sufficient to provide for the entire respiratory need, a more concentrated ether vapor will be required to compensate for the dilution of the mixture Until the introduction of the nasal or oral tube, the entire air current passes through the by-pass and carries no ether vapor The initial anesthesia is secured in the customary manner and need be only deep enough to permit the introduction of the tube without resistance from the patient The tube is lubricated and is slipped gently into the nostril or into the mouth over the tongue The tube may be held in place by a strip of adhesive plaster across the cheek Whether the nasal or oral tube shall be chosen depends on the nature of the operation to be performed For operations on the nose or nasal passages, the oral tube is chosen In most other cases, the nasal tube is used, as it does not readily become dislodged For the tonsil and adenoid operation, the nasal tube is introduced, and it is removed when the adenoid operation is to be commenced

After the tube has been introduced, a steadily increasing percentage of the air current is made to pass through the ether chamber until the entire current is passing over the ether The depth of anesthesia is controlled by regulating, with the valves, the percentage of the air current which is allowed to pass through the ether chamber and not through the by-pass After studying the patient's reaction to the anesthetic for a few minutes, the anesthetist may move away from the patient He can judge the depth of anesthesia by the character of the respiration, the state of muscular relaxation, the movements of the extremities, especially of the fingers and toes, and the respiratory reaction on suddenly slightly increasing the ether vapor percentage As the anesthetist may not be able to control the jaw without interfering with the operation, an artificial air way is introduced, if indicated

In draping the patient for the operation, interference with the respiration from sheets or towels may be neglected, as the constant current of air entering the pharynx is sufficient for the respiratory need The operation proceeds without interference due to proximity of the anesthetist or his appliances to the operative field The principal care of the anesthetist, aside from maintaining the proper depth of anesthesia, is to see that respiration is not mechanically interfered with by the surgeon or assistant

OBJECTIONS TO PHARYNGEAL INSUFFLATION ANESTHESIA

Theoretical objections which are raised to this form of anesthesia are based on an increased pressure in the pharynx, and the danger of postoperative pulmonary complications due to this increased pressure The first of these objections can be readily answered by connecting a manometer in series with the tube which joins the vaporizer to the nasal or oral tube While the apparatus is in use, the manometer registers no pressure whatever except when a lightly anesthetized patient attempts to swallow, when a pressure of 10 or 12 millimeters is momentarily indicated One having a knowledge of the structure of the pharynx would be able to foretell this result As the pharynx has five principal openings, it would not be sensible to suppose that an air current entering one of these openings could increase the intrapharyngeal pressure while the four other orifices remained open

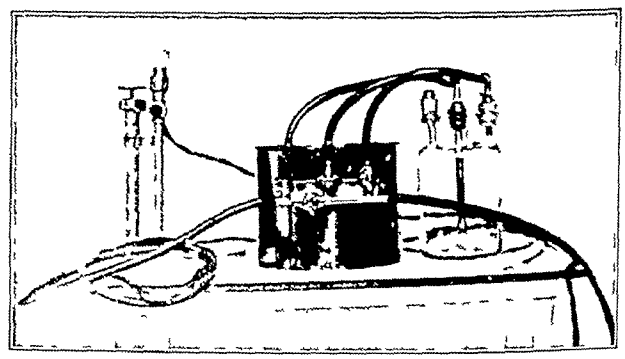

Fig 3—Constant temperature ether vaporizer from left to right electric heater and thermostat water bath Woulfe bottle inlet to right outlet to left tube in center opening dips into ether When first and third valves mounted on water bath are in the vertical position all of the air current passes through the ether container When the valve to the left is in the horizontal position and the one on the right is vertical as shown less than half of the air current passes through the container As the left valve is turned from this position to vertical the percentage of ether vapor is increased With the left and central valves vertical and the right horizontal the air current bubbles through the liquid ether and the ether percentage is considerably increased

To determine the effect of pharyngeal insufflation in producing postoperative pulmonary complications, it is necessary to compare the results in this form of anesthesia with the results of other methods For this purpose, I have tabulated 1,000 recent consecutive personal cases These 1,000 operations were followed by twelve pulmonary complications, one case of pulmonary

embolism resulting fatally The percentage of pulmonary complications is 1 2 and the mortality from these complications is 0 1 per cent Pharyngeal insufflation was used in 188 of these 1,000 cases, with two postoperative pulmonary complications Both of these patients developed a cough without fever, and both recovered The percentage of pulmonary complications in these 188 cases was 1 06, with no mortality This experience is corroborated by the records of institutions which have used pharyngeal insufflation extensively, without any increase in the proportion of pulmonary complications It is probable that, so far as the anesthetic has any effect in the production of pulmonary complications, these unfortunate results depend on the depth of anesthesia rather than on the method employed, and that, following a light degree of anesthesia, these complications rarely occur

CASES SUITABLE FOR PHARYNGEAL INSUFFLATION

In the 1,000 cases tabulated, pharyngeal insufflation was employed 188 times or in 27 per cent The accompanying table indicates the nature of the operations and the results

NATURE OF OPERATIONS AND RESULTS

Operation	Number of Cases	Results *
Tonsil and adenoid	112	
Goiter	16	Two died of hyperthyroidism one in ten hours one in three days one developed cough without fever
Nasal septum	11	One developed cough without fever
Breast	9	
Mastoid	8	Two died from meningitis one in six days one in thirty three days
Sinus	4	
Brain	4	
Maxilla	4	
Cervical glands	4	
Kidney	4	
Esophageal diverticulum	2	
Laryngeal tumor	1	
Spinal cord	1	
Tongue	1	
Nose	1	
Ear	1	
Eye	1	
Other operations	4	
Total	188	

* Satisfactory except as noted

CONCLUSIONS

Pharyngeal insufflation anesthesia is chosen for all of the operations in which the ordinary methods interfere with the work of the surgeon In these cases, it is essential to efficient surgical work The apparatus should be carefully chosen and intelligently used Pulmonary complications following the use of pharyngeal insufflation are not due to the method, occurring with no greater frequency than after other forms of anesthesia

131 Waterman Street

ABSTRACT OF DISCUSSION

DR JOSEPH C BECK, Chicago Even if the instrument the author recommends is better, I believe the Beck-Mueller apparatus should not be discarded I find no difficulty of any kind since using the motor-driven apparatus that was perfected by Dr Mueller The only thing I cannot agree with is to have the mouth wide open when the anesthetic is given This anesthesia is not used at all in our clinic since we have adopted synergistic anesthesia There is a combination of ether, olive oil and paraldehyd the subcutaneous injection of morphin, ⅛ grain each hour, probably in combination with a 25 per cent solution of magnesium sulphate This anesthesia serves for all purposes in our line of work, and only in children have we thus far used anything but this rectal anesthesia, because we have not proved it to our satisfaction Dr Herb recommends paregoric instead of morphin My objection to the motor-driven apparatus is the horrible smell of ether through the house, and the irritation which it causes, and then the noise it makes

DR EDWIN MCGINNIS, Chicago I want to ask whether in using this motor-driven apparatus you can grade the amount of ether coming out of the end of the tube The disadvantage of the Beck-Mueller apparatus in laryngeal surgery is that there is too much ether If in this apparatus the control is better, if it will deliver a reduced amount of ether I should say that it would be an advantage

DR ALBERT H MILLER, Providence, R I I would apologize to Dr Beck for not having shown his very good apparatus, but I announced at the first that the forms of apparatus to be shown were selected only as types The new apparatus shown does deliver a regular, measured dosage of ether vapor The dosage can be regulated by varying the percentage of air which is allowed to pass through the ether chamber The maximum capacity of the apparatus is greater than is usually required I think that we have in this apparatus an extremely delicate, scientific sort of instrument which will maintain an exact degree of anesthesia for an indefinite period We have found that in addition to the tonsil and septum operations, cases of goiter, diverticulum of the esophagus, tumor of the larynx, and other difficult cases which are often done under local anesthesia with great discomfort to the patient for lack of such a delicate apparatus can be done perfectly by means of this apparatus and for this reason I wish to introduce it

EXPERIMENTAL STUDIES ON THE ETIOLOGY OF ENCEPHALITIS

REPORT OF FINDINGS IN ONE CASE*

EDWARD C ROSENOW, M D
ROCHESTER, MINN

It has been my privilege to study the etiology of encephalitis during the past three years through the cooperation of Dr Shelden and his associates of the Section on Neurology of the Mayo Clinic From the outset of this study it was considered possible that the disease might be caused by a filtrable virus or by bacteria of more ordinary morphology but with peculiar neurotropic properties The methods employed were such as to test both possibilities Altogether, forty cases, representing different clinical types of the disease, have been studied A large number of animals have been injected, the microscopic study of sections is not yet completed and other details in the mass of experimental data are awaiting final analysis

In order to illustrate in general the scope of the work and the results obtained, I shall report at this time in some detail the findings in one case

Mrs P E aged 53 years, first seen March 25, 1921, complained chiefly of a nervous breakdown, the symptoms of which began in January 1921, when, after a period of hard work and worry she suddenly felt weak and tired, and developed noticeable trembling all over her body This trembling lasted for about a week and from that time on she had been either in bed or sitting in a chair most of the time Her daughter said that her mother had been irrational for some time

At the time of the first examination she was markedly excited She had numerous hallucinations marked anxiety, both motor and psychic restlessness, a rapid pulse, and slight increase in temperature Physical examination revealed badly

* From the Division of Experimental Bacteriology Mayo Foundation
*Read before the Section on Nervous and Mental Diseases at the Seventy Third Annual Session of the American Medical Association, St Louis May, 1922

infected teeth, hyperemic mucous membrane in the nasopharynx, and slightly enlarged heart She could move her legs, although the muscles were very weak Sensations were apparently normal, except for numbness over the dorsum of the left foot The knee jerks were normal The pupillary reflexes and fundi were negative The urine contained a small amount of albumin and pus Examinations of the blood, including the Wassermann reaction, were negative

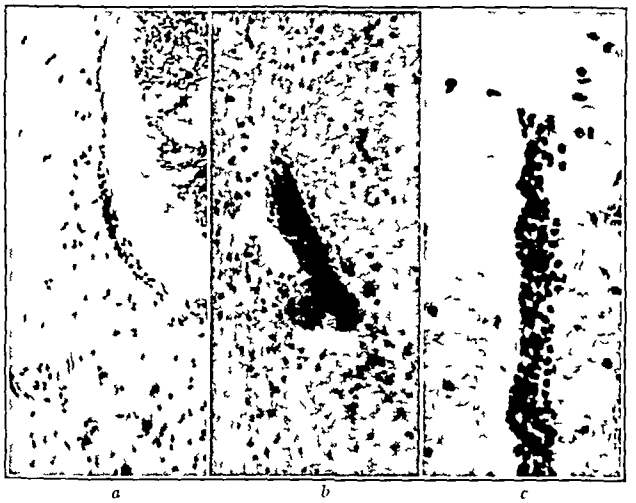

Fig 1 —Localized adventitial and perivascular round cell infiltrations in the base of the brain of the patient hematoxylin and eosin *a* and *b* × 100 *c* × 200

March 28 the patient was admitted to Stanley Hospital where she continued to have hallucinations of hearing and sight She soon became lethargic and stuporous, and developed external ocular palsies and general twitchings of the muscles especially of the lower extremities and the abdominal wall During her illness in the hospital the leukocyte counts were 6,900 and 8,100, the hemoglobin was 75 per cent The Wassermann reactions on the blood and spinal fluid were negative, and the Nonne on the latter was positive The spinal fluid was clear and contained one lymphocyte On the ninth day the pulse became very rapid and irregular, and the temperature rose The patient died rather suddenly in profound coma on the night of the tenth day One injection of the antiencephalitis serum was given shortly before death without effect

Necropsy revealed encephalitis senile atrophy of the ovaries, small cervical polyp, and marked sepsis of upper and lower teeth The convolutions of the brain stood out prominently and were extensively injected On section of one half of the brain a golden raised area measuring 1 5 cm in diameter was found in the region of the pons, otherwise the brain presented no gross abnormalities The abdominal viscera, the lungs and the heart disclosed moderate cloudy swelling, but no other changes

Histologic examination of the kidneys revealed an occasional glomerulus replaced by a hyaline scar, and thickening of Bowman's capsules, with hyaline changes in some of them The walls of the blood vessels were slightly thickened Histologic examination of sections of the brain revealed no noteworthy lesions except those in the basal ganglions A number of sections from these areas revealed moderate perivascular infiltration, localized adventitial round-cell infiltration of the larger blood vessels (Fig 1) areas of hemorrhage, usually around the blood vessels, moderate degeneration of the ganglion cells, and neurophagocytosis (Fig 2) Sections of the golden area, which resembled grossly a resorbing area of hemorrhage, revealed a striking phagocytosis of brownish pigment granules by the nerve ganglion cells (Fig 3) Prolonged search of sections of the base of the brain stained by the Giemsa and Gram-Weigert methods revealed undoubted diplococci varying much in size and shape (Fig 4 *a b, c* and *c'*) In some instances large, swollen diplococci seemed to be breaking into a variable number of small forms (Fig 4 *c*) These were found in the lesions or immediately adjacent to them In sections of the cerebral cortex and medulla, which showed no changes, the demonstration of micro-organisms was not accomplished

Cultures of emulsions of the base of the brain yielded a pure growth of the green-producing streptococcus A similar streptococcus was isolated from the apexes of the infected teeth after death, and from the pyorrhea pockets and the blood during life Cultures from the blood after death yielded a pure growth of the hemolytic streptococcus Cultures from the cerebral cortex the medulla the cervical cord and the spinal fluid were negative

EXPERIMENTS

Injections into animals were made with (1) the sediment of the defibrinated blood obtained during life, (2) the pure culture of hemolytic streptococcus obtained from the blood after death, (3) nasopharyngeal washings in salt solution, (4) filtrates of the nasopharyngeal washings, (5) salt solution suspensions of pus aspirated from pyorrhea pockets, (6) cultures from the apical infection of an incisor removed in a sterile manner at necropsy, (7) emulsions and filtrates of the central nervous system, (8) the spinal fluid, and (9) cultures from a lesion in the base of the brain

The sediment from the defibrinated blood was injected intracerebrally into two rabbits Both remained well The culture from the blood after death which yielded a pure growth of hemolytic streptococcus was injected intracerebrally into three rabbits, two receiving 0 1 c c, and one 0 1 c c of a 1 10 dilution All died of meningitis within twenty four hours and countless numbers of hemolytic streptococci were found in the turbid spinal fluid

A suspension in salt solution of the nasopharyngeal washings was injected intracerebally (0 2 c c) into one rabbit, the animal died within twenty-four hours Necropsy revealed a large area of hemorrhage at the point of injection, hemorrhages between the cerebellum and medulla and slightly turbid spinal fluid The cultures became contaminated and were lost

The filtrate of the nasopharyngeal washings was injected intracerebrally (1 5 c c) into each of two rabbits Both remained well One was chloroformed one week after

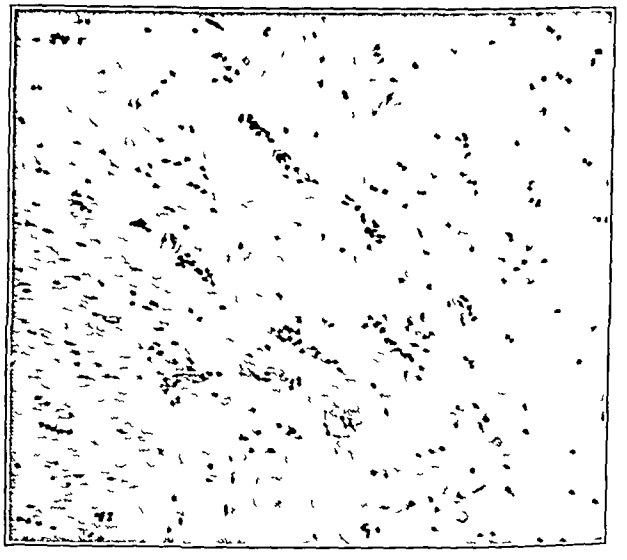

Fig 2 —Collections of round cells and neurophagocytosis in the pons hematoxylin and eosin × 100

inoculation, and the findings in the brain and cord were negative A rabbit inoculated intracerebrally with an emulsion of the brain of this rabbit remained well

A salt solution suspension of the pus from pyorrhea pockets was injected (0 2 c c) into one rabbit The animal became comatose, developed twitchings of muscles and occasional spasms of the abdominal muscles and extremities, and died twenty-four hours after the injection apparently from respiratory failure Cultures from the brain on blood-agar

plates yielded countless numbers of colonies of green-producing streptococci Those from the blood were negative

One tenth cubic centimeter of a subculture of the brain of this rabbit in the tenth generation was injected intravenously into one rabbit, which remained well

The primary culture in glucose-brain broth from the infected incisor, which on plating yielded many colonies of green-producing streptococci and a few colonies of staphylococci,

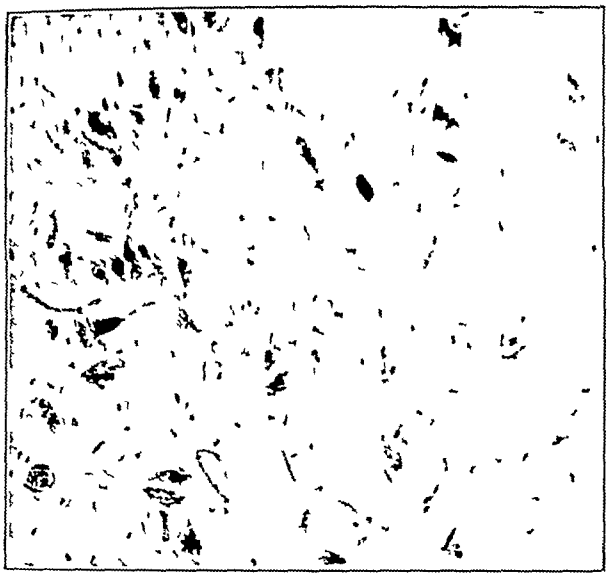

Fig 3—Pigmentation of ganglion cells in lesion showing brownish discoloration hematoxylin and eosin × 100

was injected intracerebrally into two rabbits one receiving 0 1 c c, the other 0 1 c c of a 1 10 dilution Both died within forty eight hours The brain of one yielded a pure culture of the green producing streptococcus, the brain of the other yielded this organism and a few colonies of staphylococci Inoculation from a single colony of the green-producing streptococcus of the fresh growth on a blood-agar plate was made into glucose brain broth This was rapidly transferred, and a five hour culture in the tenth culture generation was used to soak a strip of gauze, with which the nose of one rabbit was packed, and to inject intracerebrally one rabbit (R 2523), with 0 1 c c, of a 1 100 dilution The rabbit whose nose was packed remained well for forty-eight hours, when the pack was removed On the third day it sat quietly in the cage, respirations were increased, it was irritable and tremulous, and disinclined to hop On the fourth day it developed ascending paralysis, from which it died The spinal fluid was turbid the medulla and the cervical cord contained small hemorrhages, the vessels of the cerebrum were congested, but there were no hemorrhages There was no exudate surrounding the olfactory lobes Cultures of the blood were sterile, those from the brain and the spinal cord yielded the streptococcus Sections of the brain showed marked leukocytic infiltration around the vessels of the meninges, and infiltration of the pia over the base of the brain and the cervical cord Gram-positive diplococci were found in the lesions, but not elsewhere The findings in the rabbit injected intracerebrally were as follows

Rabbit 2523, weighing 1,390 gm, was injected, April 13 1921 April 14, at 7 a m it appeared well at noon it seemed well but was somewhat drowsy, and at 2 p m it sat quietly as if half asleep At 9 p m, it still appeared sleepy, and slightly tremulous in hopping April 15, at 7 a m, there was marked tremor of the anterior part of the body, this became worse when the animal hopped At noon it had developed peculiar motions of the head, synchronous with a vertical nystagmus At 7 p m, it sat quietly in the cage, respirations were slow, the left eyelid drooped, and the upper eyelids twitched rhythmically, this was peculiar as the right eyelid moved quickly downward the left moved upward and vice versa The animal responded slowly to stimuli, and when it hopped a coarse tremor and occasional twitchings of the muscles of the anterior part of the body were noted April 16 the animal was undoubtedly better, though it was still sleepy, and ataxic in hopping, the peculiar rhythmic movements of the eyelids had disappeared April 18, the animal was less sleepy and less ataxic April 20, the lethargic symptoms had become worse The animal hopped slowly and stiffly, and only when goaded Response to stimuli was delayed April 21, at 9 a m, it sat as if asleep It could be aroused but responded slowly, and immediately after being prodded it apparently fell asleep in the characteristic attitude, the head held somewhat forward the ears erect and in tension and the eyes half closed At 11 30 a m, the somnolence was marked The animal was photographed sitting up, lying on its side, and on its back, sound asleep in each position (Fig 5) The next day at 6 45 a m, it sat quietly in the cage, apparently fast asleep Slight or moderate stimulation failed to arouse it If it was pushed to one side and lost its balance it would right itself and assume its characteristic position When forced to hop it did so very slowly and immediately went to sleep At 9 30 p m, the condition was unchanged April 28 the animal was undoubtedly less lethargic, it responded more promptly to stimuli, its head tilted to the left April 30 the lethargy had largely disappeared, but the animal held its head markedly to the left May 5, it appeared wide awake, was alert and ate normally The tilting of the head had become more marked so that it was held in an almost horizonal plane There was a tendency to fall to the left May 18 the condition was unchanged May 20, snuffles developed and severe infection of the right eye May 22, the animal was found dead There were no gross lesions in the brain or the cord The nostrils contained mucopus Cultures from the blood and the brain were completely overgrown by a spreading gram negative bacillus Sections of the brain showed several areas of round-cell infiltration in the corpus striatum along the blood vessels (Fig 6), and central portion of the cerebellum near the juncture of the pons There were no lesions in the choroid plexus, meninges, medulla or cervical cord

Approximately a 20 per cent emulsion from the base of the brain and lesion in the pons was injected intracerebrally directly in doses of 1 c c into three rabbits and 1 5 c c into one monkey Two of the rabbits and the monkey

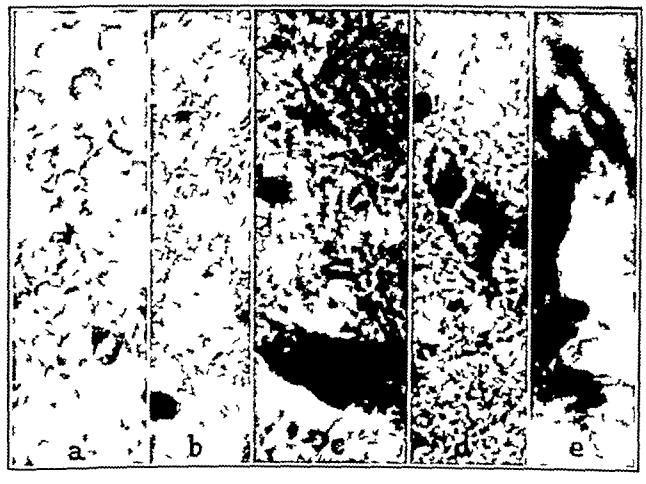

Fig 4—Diplococci in lesions in the basal ganglions *a* area of hemorrhage in the pons Gram Weigert × 1 000) *b* and *c* smears from pons after preservation in 50 per cent glycerol Giemsa × 1 000 *d* and *e* areas adjacent to perivascular infiltration in the pons, Gram Weigert × 1 000

remained well, and sections of the brain and cord eighteen and twenty-one days after injection, respectively, revealed no changes One rabbit died the eleventh day No gross lesions were found in the brain or the cord The peritoneal cavity contained a fine fibrinous film and a moderate quantity of clear fluid Cultures from the blood and the brain, and from the filtrate of the brain in glucose-brain broth and in ascites

tissue fluid remained negative The emulsion of the brain of this rabbit was injected intracerebrally into one rabbit and the filtrate of the brain emulsion into two rabbits All remained well for eleven days They were chloroformed Sections of the brain and the cord were normal The emulsion of the brain of the rabbit injected with the brain emulsion was injected into two rabbits, and the filtrate into one Again all three rabbits remained well

A pure culture of the green-producing streptococcus was isolated from the emulsion of the brownish lesion at the base of the brain of the patient This culture was rapidly transferred in warm glucose-brain broth, from three to six subcultures being made every twenty-four hours for forty-six culture generations When in the tenth subculture, 0 1 c c was injected intravenously into one rabbit (R 2524) and 0 1 c c of a 1 100 dilution intracerebrally into another rabbit (R 2526), and the nose of one (R 2521) was packed with gauze soaked in the fresh undiluted culture The rabbit injected intravenously did not develop symptoms, and was chloroformed eleven days after inoculation The cultures from the brain and the blood were negative Sections revealed moderate round-cell infiltration immediately surrounding the left lateral ventricle (Fig 7) The rabbit injected intracerebrally with the diluted culture acted peculiarly at 7 o'clock the morning after the day of injection It stretched its head far forward slowly, and when forced to hop it often bumped its nose into the side of the cage At 12 m, its condition was about the same, at intervals it still acted peculiarly as if mentally deranged The respirations were increased, and tremor of the anterior part of the body had developed At 4 p m it continued to act in a singular manner, pushed its nose into the side of the cage and under its mates, and at intervals turned its head sharply to the right It had developed twitchings of the right eyelids In the morning of the second day after injection it was found dead The vessels of the meninges were markedly congested Cultures from the brain yielded a pure growth of the green-producing streptococcus, those from the blood remained sterile

Rabbit 2521, weighing 2000 gm, whose nose was packed, April 13, had developed purulent discharge from the right nostril the following day, but otherwise it appeared well when the pack was removed April 15, at 7 a m, the animal was tremulous and hyperesthetic, and the hind extremities

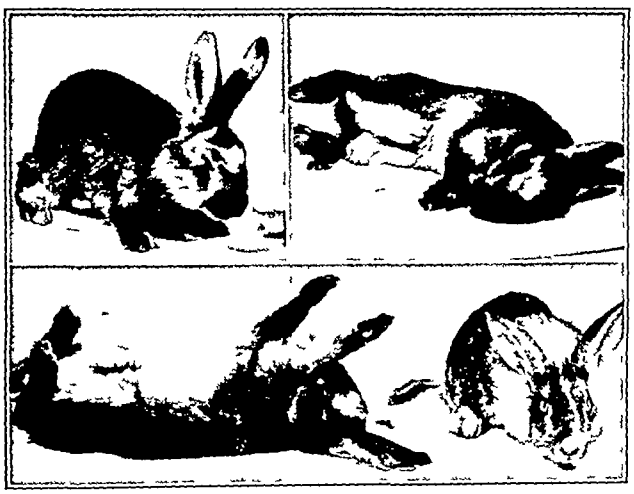

Fig 5—Rabbit 2523 showing marked lethargy with normal control

were definitely weak At 3 p m, the respirations were increased, and horizontal nystagmus with twitchings of the eyelids was noted There were peculiar tic-like movements of the head, with a tendency to retraction, but no spasms At 3 30 p m, the animal lay quietly, with almost complete paralysis of the hind extremities, and chorea-like movements of the head, which was tilted somewhat to the left The horizontal nystagmus continued and was synchronous with respirations At 6 p m, the animal was restless It made repeated violent efforts to get on its feet and to hop, but was unable to do so on account of weakness in the extremities It threw its head from side to side, and nystagmus was more marked At 7 p m, the condition was unchanged The following day its respirations were slow, it was extremely weak, and the fore and hind extremities were completely paralyzed At 10 30 a m, it was found dead

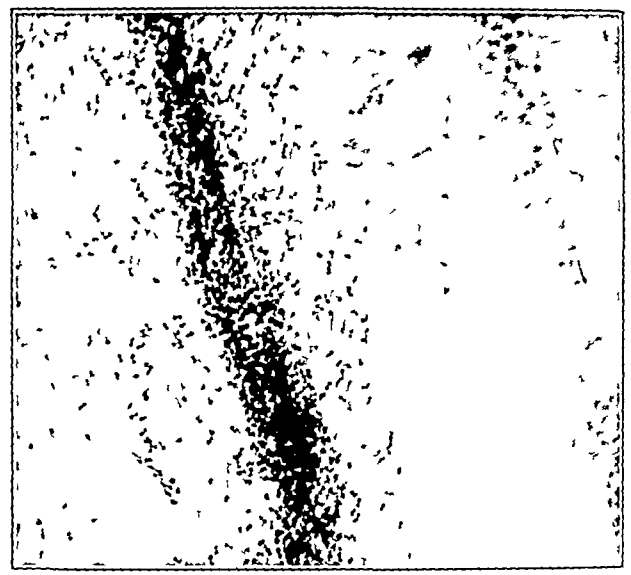

Fig 6—Section of cerebrum of rabbit shown in Figure 5 area of round cell infiltration along a blood vessel in the corpus striatum hematoxylin and eosin × 100

At necropsy, numerous hemorrhages were found in the medulla and throughout the length of the cord, which were most marked in the lumbar enlargement The cerebrospinal fluid was somewhat turbid The pia covering the pons, cerebellum and medulla was edematous Smears revealed leukocytes mononuclear cells and streptococci Cultures from the brain yielded large numbers of green-producing streptococci, those from the blood yielded a few colonies of the same organism in pure culture Sections of the brain showed marked perivascular and moderate diffuse leukocytic infiltration in the meninges, and perivascular infiltration in the cerebrum, especially marked at the base

The fresh five-hour culture from the base of the brain in the forty-sixth culture generation was injected intracerebrally into two rabbits, one receiving 0 1 c c, the other 0 1 c c of a 1 100 dilution Both died within forty-eight hours of meningitis, and cultures from the brain yielded countless numbers of the organism injected in pure form

One other rabbit was injected intracerebrally with 0 1 c c of a 1 100 dilution of the same culture after it was incubated at room temperature for forty-eight hours and exposed to direct sunlight for one hour The plating of this culture at the time of injection still showed countless numbers of the green-producing streptococcus, but the animal remained well

Besides the foregoing experiments protection experiments with the monovalent antiencephalitis serum (H 18) were undertaken in rabbits and mice Assuming that the spinal fluid and filtrate of brain emulsion would prove infectious, two sets of rabbits (six each) were injected intracerebrally with 1 5 c c each of the spinal fluid and the filtrate of the brain emulsion treated as follows

Two rabbits were injected with the spinal fluid incubated for two hours with equal parts of salt solution, two with the spinal fluid treated with equal parts of normal horse serum, and two with the spinal fluid treated with equal parts of immune horse serum In the second set, six rabbits were injected with the filtrate of the brain emulsion treated in the

same way with salt solution, normal horse serum, and immune horse serum, respectively Of the twelve rabbits injected, all remained well except one, which died of intercurrent infection (snuffles) four days after inoculation Cultures from the brain and blood yielded gram negative bacilli, sections of the brain were negative

The protection experiments in mice were undertaken with the strain isolated from the apex of the infected incisor after one animal passage, and with the culture from the base of the brain of the patient, both being in the tenth culture generation Five hour cultures of these strains in glucose-brain broth were injected intraperitoneally in doses from 1 5 to 0.25 cc, as indicated in Table 1 In each series, one set

TABLE 1—SUMMARY OF PROTECTION EXPERIMENTS IN MICE

	Strain Isolated from the Infected Tooth			Strain Isolated from the Brain		
Dose in Cc	Series Untreated	Series Treated with Normal Horse Serum	Series Treated with Antiencephalitis Serum	Series Untreated	Series Treated with Normal Horse Serum	Series Treated with Antiencephalitis Serum
1 5	Death	Death	Death	Death	Death	Death
1 0	Death	Death	Survived	Death	Death	Survived
0 5	Survived	Survived	Survived	Death	Survived	Survived
0 25	Death	Survived	Survived	Death	Survived	Survived

of mice was used as controls One set was given subcutaneously 0 2 cc of normal horse serum at the time of the intraperitoneal injection, and one set 0 2 cc of antiencephalitis serum (H 18) All but one of the untreated mice in the two series died The normal horse serum appeared to have slight protective effect The four animals injected with the two smaller doses survived The antiencephalitis serum had more marked protective power Only two of the eight mice, those receiving the largest dose, succumbed Of the thirteen mice that died, death occurred within forty-eight hours in nine, three died on the third day, and one on the fifth

The strains from the tooth and the brain produced small, sometimes umbilicated, nonadherent, greenish colonies on

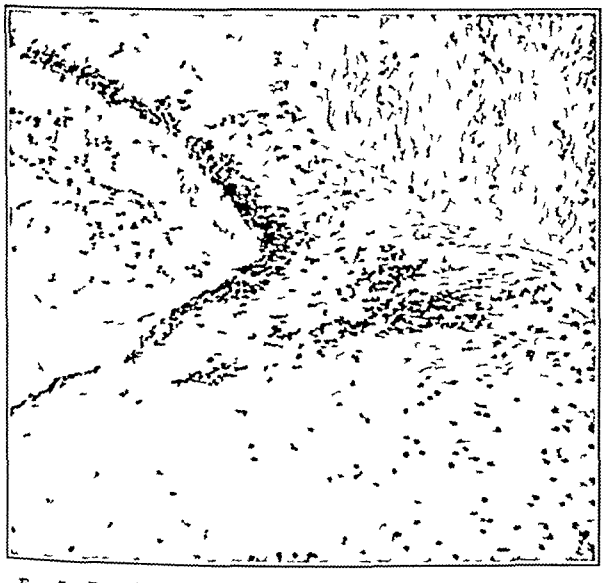

Fig 7—Round cell infiltration adjacent to lateral ventricle in rabbit (R 2524) injected intravenously with the culture from the brain after ten subcultures hematoxylin and eosin × 100

blood agar plates, and a diffuse growth in glucose-brain broth The organisms varied greatly in size, depending on the age of the culture and on the medium (Fig 8) Large, swollen, elongated cocci and diplococci often appeared to be dividing longitudinally and transversely The organisms grown in ascites tissue fluid were smaller and more regular in size than those in glucose-brain broth The fermentation powers of the two strains were identical Glucose, lactose, maltose and saccharose were fermented, inulin, mannite and salicin were not Both strains were insoluble in bile

AGGLUTINATION EXPERIMENTS

The agglutination experiments are summarized in Table 2 The antigens used were fresh cultures in

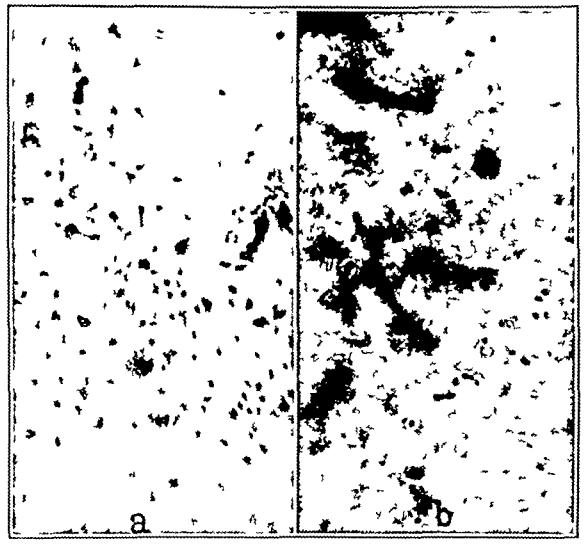

Fig 8—The streptococcus as isolated in cultures *a* glucose brain broth culture from the filtrate of the nasopharyngeal washing *b* ascites tissue culture from the filtrate of the brain emulsion Gram Weigert, × 1 000

glucose-brain broth The figures in the table following the point in the numbers indicating the strain represent the culture generation, the exponents the animal passage The slide method was used, in which one part of each of the serums was mixed with two parts of the

TABLE 2—AGGLUTINATION EXPERIMENTS

Experiment	Strain	Place of Isolation	Date of Agglutination Test	Agglutination by Various Immune Serums: Poliomyelitis 312	Encephalitis Horse 18	Influenza Horse 15	Normal Horse	Pneumococcus I	Pneumococcus II
1	4268	Gum abscess	4/ 8/21	0	2	0	0	0	0
2	4268	Infected molar	4/ 8/21	0	2	0	0	0	0
3	4268	Nasopharynx	4/ 8/21	0	0	0	0	0	0
4	4268	Filtrate naso	4/11/21	2	3	1	0	0	0
5	4268 3	pharyngeal washings	4/19/21	3	2	1	1	0	0
6	4268	Blood during	4/ 9/21	2	3	0	1	0	0
7	4268 3	life	4/ 9/21	1	2	0	0	0	0
8	4268		4/10/21	2	2	0	0	0	0
9	4268 9		4/12/21	1	3	1	0	0	0
10	4268 48	Base of brain	5/ 4/21	3	4	0	0	0	0
11	4268 60		5/11/21	2	2	1	1	1	3
12	4268 68		3/14/22	3	3	3	3	3	3
13	4268		4/10/21	0	2	0	0	0	0
14	4268 2		4/ 9/21	2	3	0	0	0	0
15	4268 2		4/10/21	2	3	0	0	0	0
16	4268 9	Infected incisor	4/12/21	2	3	0	0	0	0
17	4268 30		4/23/21	2	3	0	0	0	0
18	4268 46		5/ 7/21	2	3	0	0	0	0
19	4268 46		5/ 7/21	2	3	0	0	0	0
20	4268 5		3/14/22	3	3	3	3	3	2

antigen, and the agglutination recorded within ten minutes The poliomyelitis, encephalitis, and influenza immune serums were prepared in horses by repeated injections of green-producing streptococci isolated in these respective diseases Partial agglutination of the primary culture from three possible infection atriums, gum abscess, pyorrhea pockets and nasopharynx, occurred in the antiencephalitis serum in the first two (Experiments 1 and 2), but not in the last (Experiment 3) The primary culture and the third culture

generation of the filtrate of the nasopharyngeal washings were agglutinated by the antipoliomyelitis and the antiencephalitis serums, and slightly by the antiinfluenza serum (Experiments 4 and 5). Similar results were obtained with the strain isolated from the blood during life (Experiments 6 and 7). Experiments 8 to 12 indicate the results obtained with the streptococcus isolated from the brain under different conditions. It was agglutinated specifically by the antipoliomyelitis and the antiencephalitis serums as isolated (Experiment 8), and after forty-eight rapidly made subcultures (Experiments 9 and 10). After sixty-five rapidly made subcultures there was a shifting of agglutination to Type II antipneumococcus serum (Experiment 11), and after many subcultures nearly a year later (Experiment 12) it was agglutinated by all the serums. Experiments 13 to 20 indicate similar results obtained with the strain isolated from the infected tooth. Specific agglutination occurred in either or both the antipoliomyelitis and antiencephalitis serums as isolated, and after many rapid transfers (Experiments 13 to 19), but not after prolonged cultivation (Experiment 20). Both strains appear to have become saprophytized after long residence on artificial mediums, as they were agglutinated by all the serums.

SUMMARY

The etiologic relationship of the foci of infection and of the green-producing streptococcus to the encephalitis in this patient seems to be established. The organism was isolated from the infected teeth, from the filtrate of the nasal washings, from the blood during life, from an emulsion of the base of the brain after death, and from the filtrate of the brain emulsion. It was demonstrated in the lesions after prolonged search (Fig. 4), and proved to be absent elsewhere. The microscopic changes in the brain were typical of this disease (Figs. 1 and 2). The streptococcus from the infected teeth, from the blood, and from the base of the brain was identical in morphology, cultural characteristics, and in immunologic properties (Table 2). The strains, isolated from one infected tooth and from the brain, possessed well marked neurotropic properties. The chief symptoms of the patient, such as lethargy, weakness of the extremities, oculomotor disturbances, spasms and tremors of muscles, and apparent mental derangement, were produced by intravenous and intracerebral inoculation of small doses, and by packing the nose with gauze soaked in the culture, even after many subcultures. The lesions of the brain and the cord of the animals were also characteristic. The organism was isolated from the brain and the spinal fluid, and demonstrated in the lesions in the animals showing symptoms and those examined relatively soon after inoculation. In those that recovered and were chloroformed long after injection, the demonstration of the organism was often impossible.

In a series of similar experiments with material from normal throats, the streptococcus having these peculiar properties was not found. Of the fourteen rabbits injected intracerebrally with salt solution suspensions of nasopharyngeal swabs from fourteen normal persons, five died of meningitis within forty-eight hours. In four green-producing streptococci, and staphylococci, and in one hemolytic streptococci were isolated. The green-producing streptococci were not agglutinated by the antiencephalitis serum, and sections of brain and cord showed only leukocytic infiltration of the meninges. Nine remained well and were chloroformed for examination in from ten to nineteen days after injection. Cultures of the brain, the spinal fluid, and the blood were negative, and sections of the brain and the cord revealed no changes.

The hemolytic streptococcus isolated from the blood of the patient after death produced suppurative meningitis when injected intracerebrally. The negative results following intracerebral injections in twenty-six rabbits and one monkey, of brain emulsions, filtrates of brain emulsions, filtrates of nasal washings, sediments of the dehemoglobinated blood, from which the characteristic streptococcus was isolated, of spinal fluid, and brain emulsions and filtrates of animals which were injected with these and did not develop symptoms, may be interpreted as proving that a filtrable virus, as usually understood, was absent in this case, and that the infecting power of the relatively few streptococci in these materials was insufficient to overcome the resistance of the animals.

The agglutination and protection experiments with the monovalent antiencephalitis serum prove the close relationship of the streptococcus from this case to the one isolated from the case of typical epidemic (lethargic) encephalitis with which this serum was prepared.

The similarity in cultural characteristics and immunologic properties of most of the strains isolated from the different cases studied has been demonstrated. Mice and rabbits have been protected with this serum against the heterologous strains. Moreover, encouraging results have been obtained in a number of patients to whom it was possible to administer the serum soon after the onset of symptoms of encephalitis. These and other findings will be reported in detail elsewhere.

ABSTRACT OF DISCUSSION

DR. LEWIS J. POLLOCK, Chicago: I should like to ask Dr. Rosenow, first, as to whether the perivascular infiltrations noted in the brain were present to any marked degree in other organs of the body, and, second, whether any particular part of the brain showed a specific vulnerability to the pathology produced by this diplococcus.

DR. E. C. ROSENOW, Rochester, Minn.: There was marked evidence of the tendency of this organism to localize in the basal ganglions of the brain. This occurred not only on intracerebral inoculation, but also following intravenous inoculation and following the packing of the nose with gauze soaked in the culture. The sections of other organs showed no perivascular infiltrations and no other noteworthy lesions, aside from moderate cloudy swelling.

The Swedish Race Institute.—During the first year of the working of this state supported institution at Upsala, Sweden, the research was restricted to a single province, but it is proposed to extend the work throughout the whole country, compiling data on heredity from the standpoints of physiology and pathology. A museum is planned, as well as experimental research. The commission in charge has seven members, including Dr. Lundborg, the director. The staff consists of the archives custodian, a medical assistant, a genealogist, an anthropologist and a photographer. The settled character of most of the population in Sweden and the way in which the generations succeed each other in the same rural district renders Sweden peculiarly favorable for research on heredity. Lundborg has published in the *Svenska Lakaresallskapets Handlingar* a number of studies on racial and culture problems in the light of medical biology.

CARE OF THE BLADDER IN PREGNANCY, LABOR AND THE PUERPERIUM *

H. W. SHUTTER, M.D.
MILWAUKEE

The intimate relationship both anatomically and functionally between the bladder and the female generative organs is largely overlooked in our management of the parturient woman. When we remember that, for the most part, the female bladder has its blood, lymphatic and nerve supplies in common with the generative organs, we are in a position to realize that the changes of pregnancy in the uterus and vagina must largely be duplicated in the bladder. Congestion, edema, increased vessel caliber, hypertrophy of the mucosa and muscle coats, increased capacity and altered form are all changes which the bladder shares with the pregnant uterus.

THE BLADDER IN PREGNANCY

Pelvic congestion and the direct pressure of the enlarged uterus, as yet a pelvic organ, account for most of the bladder symptoms of the first trimester. Increased vascularity of the bladder wall can be noted with the cystoscope as early as the sixth week. The trigon is naturally the first area to show this change. Radeaux[1] showed that sixty-three out of a series of 124 pregnant women had bladder symptoms at some time during the nine months. Twenty-six of the sixty-three had symptoms in the first trimester. Frequency, dysuria, bladder pain and hemorrhage are the complaints in the order of frequency.

As the uterus increases its anteroposterior diameter the space available for bladder expansion in that direction is diminished. The result is a pocketing of the bladder at the sides. With the woman on her feet and the uterus in anteversion, the fundus presses the bladder walls downward and forward against the symphysis. Dysuria is often the result, especially in a woman forced to be continually on her feet. Rest in bed will relieve these patients.

Urinary frequency, when not associated with infection, usually disappears when the bladder rises out of the pelvis. Bladder hemorrhage occurring at or after the end of the first trimester can usually be demonstrated as coming from varices in the wall. There are a few cases of retention reported developing in early pregnancy in women neurologically and serologically negative with uteri apparently in normal position. One such case which I saw cleared up when the woman aborted spontaneously.

Malpositions of the pregnant uterus, particularly prolapse and retroversion, produce the most serious complications of the first trimester. retention, overdistention, cystitis and possibly slough of the bladder mucosa. The degree of retroversion regulates usually the type and time of onset of bladder symptoms. If the cervix is thrown against the symphysis or into the region of the trigon, symptoms develop early. Dysuria, inability to urinate, the incontinence of retention and the discomfort and pain of distention are the early symptoms. If reposition of the uterus is accomplished at this time, bladder infection may not develop. Occasionally it is necessary to open the abdomen in order to replace the uterus. High fever, rapid pulse, malaise, abdominal and kidney tenderness, vomiting, delirium and shock are reported in the graver cases. Sudden withdrawal of the entire bladder content has been followed by hemorrhage and shock. The use of a trocar is occasionally necessary to empty the bladder. As the condition in the advanced cases is a gangrenous cystitis, the production of a vesicovaginal fistula admits the passage of the slough, resulting frequently in recovery. Deaths have been reported from hemorrhage, shock, bladder rupture, peritonitis and resulting kidney involvement.

Pelvic congestion and edema associated with mild retention and moderate malposition of the pregnant uterus predispose to bladder infections which appear in the latter part of the first trimester and later throughout pregnancy. We now know, however, that there is no justification for the diagnosis of cystitis in pregnancy unless the kidney pelves have been excluded. Torsion of the ureter due to uterine dextroversion and urinary retention are now believed to be the chief factors in the production of pyelitis in pregnancy. Weibel[2] had difficulty in catheterizing the ureters of forty-six out of 100 pregnant women. The same author believes that the staphylococcus and streptococcus infections of the renal pelvis are of the ascending type and that infection with *B. coli* occurs only in the presence of urinary and intestinal stasis. Research has shown that infection of the kidney may enter through several paths. Embarrassment of bladder function, due to the increased size of the uterus, predisposes to urinary infection in the latter two thirds of pregnancy. Frequency and burning urination should always direct one's attention to the urinary system when unilateral pain, either abdominal or dorsal, is a complication of pregnancy. One is never justified in operating for acute abdominal conditions until the kidney pelves and the bladder are proved negative. Tenderness in the costovertebral angle is not constant in pyelitis. It is surprising how quickly pain is relieved in the ordinary case, once the patient is off her feet. Milk diet, free catharsis, posture, acid sodium phosphate and hexamethylenamin bring relief in most cases. Catheter drainage, while necessary in the graver cases, is advocated largely by the urologic surgeons. If the condition is so serious as to make the induction of premature labor necessary, one can be sure that the termination of labor alone will not cure the condition. Every case of pyelitis must be carefully followed after labor.

In the last months of pregnancy, owing to the pressure of the presenting part against the bladder and urethra, one meets patients complaining of frequency, incontinence and occasional ischuria. These symptoms naturally appear earlier in primiparas. Occasionally, pyelitis develops or reappears at this time. The actual bladder space has been largely obliterated, and the organ sacculates at the sides, the so-called saddle bag bladder. Residual urine is present in many of these patients. One frequently notes, while performing a cesarean section, that, owing to the altered contour of the bladder, the preliminary catheterization has been incomplete.

THE BLADDER DURING LABOR

The onset of labor finds only the upper portion of the bladder in the abdomen. As the cervix dilates and

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Radeaux: Arch. gen. de med. **2**: 1873-1883, 1905.

2. Weibel: Arch. f. Gynak. **99, 100**, 1913.

the lower segment retracts, the vesical walls are carried upward Late in labor the urethra has been shown to be definitely elongated The bladder base is lower in the female than in the male, and its tense, ligamentous attachments predispose it to traumas in the expulsive stage The woman with a contracted pelvic outlet in the anteroposterior diameter, or a generally contracted pelvis, is predisposed likewise to injury of the supporting structures of the bladder and urethra

Reflexly, as well as by actual obstruction, the full bladder delays dilatation of the cervix and expulsion of both fetus and placenta The tendency to allow women to labor with considerable quantities of urine in the vesical cavity predisposes to separation of the pubovesical ligaments and subsequent relaxation of the vaginal wall, cystocele and urethrocele Owing to the stretching of the interureteral ligament at the end of pregnancy, the ureter orifices tend to remain open, and the stress and strain of labor, with the increased bladder pressure during the expulsive efforts, may light up old infections of the kidney pelvis and bladder

Skene [3] and Emmett,[4] who in their day saw large numbers of bladder injuries, have left us many vivid descriptions Emmett said that injuries to the urethra were far more common than third degree tears Both authors showed that the majority of injuries in the first stage occurred above the trigon, those of the expulsive stage were located at or below that structure Winckel, from necropsy material, and Ruge [5] and Stoeckel,[6] with the cystoscope, showed that the bladder and urethra receive injury in practically every labor Laceration, edema, contusion and hemorrhage were most common and pronounced in the bladder of the primiparous woman Long labor, instrumentation, contracted pelvis and dry labor predispose to trauma Ruge showed that the postpartum difficulties with the bladder occurred in direct proportion to the amount and severity of the injury to the bladder wall All cases in which hemorrhage in the wall of the bladder was demonstrable with the cystoscope required catheterization Injuries to the ligamentous bladder attachments are probably more common than those demonstrable in the wall "The crying need of obstetrics," says one authority, "is a method of detecting these injuries before fascial retraction and atrophy set in"

Formerly, vesicovaginal fistulas were not uncommon as a complication of labor Skene and Emmett both showed that necrosis through the prolonged pressure of labor was the most common cause of this complication With more modern methods at our disposal, this is probably not true Whenever possible, rents in the bladder wall are repaired at once If the lesion is due to devitalization and necrosis, it will not appear for a number of days and its repair is attempted some time later

Peterson and Williams have shown that fistula is not an uncommon sequel of vaginal cesarean section and pubiotomy Vaginal cesarean section in the last few weeks of pregnancy is particularly liable to result in injury to the bladder As the bladder rests more to the right than to the left, pubiotomy is preferably done on the left side Cases have been reported in which the bladder has been caught between the separated ends of the pubic bone, following pubiotomy Constant pressure against the hips usually prevents this Separation of the bladder attachments by the rotation of forceps or craniotomy is often accompanied by infection in and about the bladder Bladder stones are occasionally reported as having obstructed labor The larger stones were formerly treated by the production of a vesicovaginal fistula With hospital facilities available, abdominal cesarean section would seem a better method of treatment

The most common measures for the protection of the bladder in labor are, briefly, as follows

1 Careful prenatal observation and diagnosis will give us an idea of the presence of old bladder lesions and infection, the presence of probable disproportion, and the possibility of interference being necessary at delivery

2 Preservation of the membranes is conducive to shorter labors, better cervical dilatation and more complete retraction and bladder elevation

3 Nurses and interns must be taught to keep the bladder and rectum of the parturient woman empty Every operative delivery is preceded by careful catheterization

4 Episiotomy releases the head posteriorly, takes off the pressure under the symphysis, and frequently spares the forceps

5 Interference, whether it be forceps, extraction or craniotomy, should not be carried out in the presence of an undilated cervix

6 The use of a flat retractor between the head and the bladder, advocated by Pomeroy, is of value when traction is necessary

7 In dealing with posterior positions of the occiput, rotation with the forceps is dangerous One cannot injure the bladder by manual methods of rotation

THE BLADDER AFTER LABOR

The most common bladder complication of the puerperium is overdistention and ischuria Holste [7] catheterized thirty puerperal women daily for a week after labor Catheterization was performed immediately after voiding, and the urine obtained was measured Twenty-four hours after delivery he found a residual urine averaging 107 c c in the primiparas and 58 c c in the multiparas This gradually diminished At the end of a week it averaged only 14 c c in the primiparas and 7 5 c c in the multiparas He concluded that usually puerperal women do not empty the bladder completely In 1912, Steuernagel [8] measured the capacity of the female bladder at the various periods of pregnancy, labor and the puerperium He showed that there is a steady increase in capacity after the fifth month In the nonpregnant the bladder usually, as the patient says, "feels full" when 200 or 250 c c of sterile boric acid solution is introduced The woman at term, Steuernagel found, did not develop this desire to urinate until 350 c c of the solution had been introduced Under slight pressure she could tolerate 800 c c of solution in the bladder, as against 500 c c in the nonpregnant The striking thing about these researches was that the patients from twenty-four to forty-eight hours postpartum did not develop desire until about 1,000 c c was in the bladder Under pressure they tolerated 2,000 c c , in other

3 Skene Diseases of Women New York D Appleton & Co 1898
4 Emmett Vasico Vaginal Fistula New York William Wood 1868 Principles and Practice of Gynecology Philadelphia H Lea & Sons 1884
5 Ruge Monatschr f Geburtsh u Gynak **20** 233 237 1904
6 Stoeckel and Ruge Cystoscopie der Gynakologen 1904

7 Holste K Aerztl Rundschau **16** 233 237 1906
8 Steuernagel W S Ztschr f gynak. Urol **3** 295 297 1911 1912

words, the capacity of the puerperal bladder was four times that of the nonpregnant

In 1921, Walker[9] of Baltimore published an article giving the bladder pressure in millimeters of mercury in healthy males, at rest This he did by attaching a blood pressure machine indirectly to a catheter He found that when no expulsive efforts were made the manometer rose to 12 or 16 mm of mercury, according to the amount of urine or sterile solution in the bladder If more than 400 c c was introduced, the pressure fell slightly Following this idea, we found that the pressure in healthy females was slightly less than in males With this in mind, several puerperal women, unable to void, were catheterized and the bladder pressure measured On the whole, they showed pressures averaging from 2 to 6 mm , or from one-fourth to one-third below that of the nonpregnant woman with a corresponding amount in the bladder This work is still fragmentary, and will be reported in detail later It is mentioned only as a phase in the subject of residual urine and retention

All of us have noticed, I think, that the more extensive the repair work done after labor, the more likely the patient is to require catheterization This is not surprising when one remembers that the pudic nerve supplying the perineum and vulva leaves the cord at about the same level as the nerves supplying the hypogastric plexus The presence of large vaginal clots, a poorly contracted uterus, or an overfilled rectum favors retention and ischuria Olshausen believed that catheterization after labor is necessary largely because of the elongated kinked urethra Scanzoni and Winckel believed retention due to the inability of the bladder muscle to act Schroeder says that the sensation of distention is less effective in the puerperal woman Contracture or edema of the bladder neck, often considered a factor in these cases, is certainly seldom noted on passing the catheter Reflexes set up by the pain experienced when urine comes in contact with injuries of the urethra or vulva have been cited as a cause of retention Hysteria, posture, primiparity and decreased abdominal pressure are all factors in this condition Postpartum sepsis produces retention appearing several days after labor from causes similar to those producing intestinal paresis in these cases As a poorly contracted uterus predisposes to retention, so does retention tend to prevent firm contraction of the uterus Careful consideration of retention convinces one that there is no single etiologic factor in any given case

Pathogenic bacteria deliberately injected into healthy bladders have failed to produce infection in the absence of injury or residual urine "When catheterization," says Curtis,[10] "is performed for indications other than the relief from retained urine, subsequent infection is a rarity On the other hand, catheterization to relieve a distended bladder is followed by infection in spite of the greatest care" Postpartum accumulations of urine invite cystitis Authors disagree on the prevalence of pathogenic bacteria in the bladder of the female Unpublished work now being done in one of the larger clinics will probably show that pathogenic bacteria are present in the bladders of a considerable percentage of women in labor The normal changes of pregnancy in the bladder therefore, plus the injuries of labor, provide all the factors necessary for the production of infection What, then, is to be our course in preventing and combating puerperal overdistention, ischuria and cystitis?

The bladder should be emptied before the woman leaves the delivery table

As soon after labor as is reasonable, she should be urged to void If necessary, she may be propped up in bed to accomplish this

Overdistention should not be allowed to develop If the woman cannot be made to void, and in one's opinion the bladder is full, she should be catheterized

The care of the bladder should not be left to an inexperienced attendant

Strychnin, ergot and pituitary extract are sometimes of value in stimulating the bladder muscle, especially when augmented by the increased intra-abdominal pressure of the erect posture

A hot enema, the electric current and suggestion are often effective

Hexamethylenamin, in combination with acid sodium phosphate, should be given by mouth in most cases in which catheterization has been necessary

After each catheterization, a dram of 20 per cent argyrol should be left in the bladder

If pus appears in a urine previously clean, daily irrigations of warm sterile boric acid solution usually clear the condition rapidly

Barnes,[11] Skene and Chamberlain[12] all showed many years ago that once a patient is catheterized, even though she later voids spontaneously, the procedure should be repeated at least once daily until bladder tone has returned and residual urine has disappeared That failure to do this is the most common cause of our so-called catheter cystitis has been shown by Taussig, Dudley,[13] Curtis and Sampson[14] Once catheterization is necessary, its repetition for the prevention of a large alkaline accumulation is a conservative procedure

Urinary incontinence following labor has no single cause Usually one suspects the incontinence of retention Skene described overstretching of the bladder neck due to pressure of the presenting part as a cause of puerperal incontinence Temporary paralysis and lacerations of the urethra, sphincter and bladder wall must be considered in each case If incontinence occurs soon after labor, one may suspect traumatic fistula or sphincter relaxation The incontinence associated with sepsis, and the incontinence of fistula from pressure necrosis, are delayed in appearance The treatment of each case varies with the origin Strychnin and electrotherapy may be of value in paralysis and overstretching of the sphincter Lesions of the bladder wall are repaired at once, if found at or soon after labor

Injuries to the pelvic portion of the ureters are not infrequent Long, dry, tedious labors, the presence of disproportion, poor retraction and operative interference predispose to these injuries Involvement of the ureter in inflammatory exudates is sometimes seen The older gynecologists described the pathology and symptomatology of this condition in detail Tenderness over the ureter, and temperature falling with the appearance of pus and blood in the urine, are the common findings of importance Catharsis, bladder

9 Walker George Apparatus to Aid in Differentiation Between an Obstruction in the Urinary Outlet and Paralysis of the Bladder J A M A 77 286 (July 23) 1921

10 Curtis, A H Am J Obst 78 230 (Aug) 1918

11 Barnes A Lancet 1875 pp 127 165 372 455

12 Chamberlain M Am J Obst 10 177, 1877

13 Dudley Text Book of Gynecology Philadelphia, 1898

14 Sampson and Hennes Bull Johns Hopkins Hosp 15 156 1904

irrigations and forced fluids are indicated in the medical treatment If drainage of the kidney pelvis by catheterization seems advisable, it should be done by an expert, bearing in mind the possibility of perforation

Pyelitis or pyelonephritis as a complication of the puerperium is closely associated with the presence of a residual urine and the possibilities of poor kidney drainage The infection at this time is frequently more active and persistent than when occurring in midpregnancy Patients suffering from pyelitis at some time previous to labor may light up the infection in the puerperium [15] Wallich [15] advises frequent catheterization for the woman who is delivered during an acute attack of pyelitis, the idea being to keep the infected urine off the vulva Smith [16] found the colon bacillus in twenty-two out of twenty-three postpartum urinary infections Forced fluids, milk diet, free catharsis, the bland oils and alkalization or acidification of the urine, according to the type of infecting organism, are indicated Drainage of the kidney pelvis may be necessary

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The most common site of compound fracture is the leg, because of the unusually scanty covering of the fragments The ideal treatment is that which prevents suppuration and converts the compound into a simple fracture This has been accomplished rarely in civil life under favorable circumstances and occasionally, during the recent war, under most difficult conditions These successful results were due partly to good treatment but chiefly to the particular nature of the causal accident or injury In civil life, with which alone I am concerned, there is a marked difference in the prognosis of a case in which the fracture has been made compound by the protrusion through the skin of the sharp end of a tibial fragment and one in which a heavy, contaminated object has produced the fracture and the wound over it, thus devitalizing the neighboring soft tissues and carrying into the wound dirt and other foreign bodies Therefore, the classification of the compound fractures into those due to indirect and those due to direct violence is a very important one In my opinion, the most important question connected with compound fractures is, To which of these two varieties does each case belong? There seems to be little tendency to make this distinction, probably because of the difficulty in doing so, and the reference to it is only occasional It would seem that because we cannot establish the occurrence of the more benign indirect violence with penetration of the skin by the clean fragment, we assume the opposite conditions, that is, direct violence with more or less consequent devitalization of the soft tissues and the carrying of infection into the wound As a consequence the treatment of the great majority of cases is assumed to require free drainage I have assumed the contrary cause to be operative in the usual case

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It will, of course, be apparent that if indirect violence and protrusion of the fragment produce the compound fracture the only sources of infection to be considered are those resulting from contact of the protruding fragment and the surfaces of the wound with adjacent objects, such as clothing and soil The size of the wound cavity will be dependent on the extent of the separation of the two or more fragments from the adjacent tissues by the fracturing force which not only broke the bone or bones but also separated them from one another to a greater or lesser degree, according to the amount of force applied The inference here is that while the cavity may be a large one it is clean for the most part and its walls have suffered little devitalization

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thorough asepsis as possible to prevent the admission of new infection and direct application to the wound of tincture of iodin, with or without neutralization by alcohol and with and without the addition of the application of dichloramin-T to combat any infection introduced through the wound I have recently[2] fully described and illustrated the extension cast employed This cannot be done satisfactorily here because of lack of space The purpose now is not so much to attempt to establish exact methods of treatment as to suggest possible lines of progress toward the ideal method of treating compound fractures in general, the conversion of them into simple fractures by immediate closure of the wounds without infection

A previously entertained impression, now strengthened by experience, is that the more absolute the immediate immobilization of the fragments the better the chances of avoiding infection, indeed, too much mobility of the fragments seems capable of causing a discharge which will not behave as does ordinary pus I believe that the direct fixation of the fragments by operative means, for this reason, is better than the indirect fixation by the nonoperative methods, although this was not so definitely established as one could wish The technic of the treatment of the wound will vary with the method of fixation of the fragments For the operative method, it is essentially the same, regardless of the particular fixation apparatus used I employed plates and screws, screws alone and nails With the extension cast, the fixation is applied at one sitting and the position of the fragments does not change after the cleansing of the wound Continuous traction with gradual correction of the deformity was not employed in any of these cases

When the extension cast is to be used the wound is temporarily covered by sterile gauze and a bandage Under a general anesthetic, the extension and fixation may be applied without covering by plaster the portion of the leg containing the wound After removal of the temporary dressings the surgeon, gowned gloved and masked as for the usual aseptic operation prepares the wound area The limb, which has been previously shaved is cleansed with a sterile gauze sponge in a hemostat, while an assistant pours on ether Then the parts are draped with sterile sheets and towels, and the wound and surrounding skin are painted with tincture of iodin, which is washed off with alcohol Then with a sterile sponge in a hemostat, tincture of iodin is carried to all parts of the interior of the wound In some cases the excess of iodin was neutralized with alcohol and in some not Usually one or more sutures are employed to close a gaping wound loosely that is with spaces between the sutures wide enough to permit free escape of wound secretions into the gauze dressings After the first few cases treated in this way, the cast was then made to cover the whole limb, including the wound

When operation and direct fixation of the fragments are resorted to the patient is given a general anesthetic usually ether, and the limb is prepared carefully with ether iodin and alcohol as in the nonoperative method, the skin having been previously shaved After the draping of the field of operation with sterile sheets and towels the surgeon swabs out the entire inside of the wound with tincture of iodin It will probably prove to be best to neutralize the excess of iodin with alcohol The wound is then enlarged to permit better access to the fragments which are then approximated with as little disturbance of their attachments to the surrounding structures as possible The idea is to reach the fragments, adjust them and provide firm fixation as quickly as possible In most cases, the necessity of promptness in this treatment has prevented the taking of a preliminary roentgenogram, and this has necessitated more exposure of the fragments for the accurate placing of screws or nails across the line of fracture and through both fragments These were employed with the idea of diminishing the amount of foreign body in the wound The determination of the best mode of fixation of the fragments is a question that needs more attention By this time the iodin has largely disappeared from the wound so that I have in some cases, before closing the wound filled it with dichloramin-T In all except Case 3, drainage of the wound was avoided The tendency has been to use chromic gut No 2, interrupted sutures, and to leave free spaces between them so that wound secretions can escape easily into the dressings Sterile gauze wet with alcohol is applied to the wound and this is reinforced by a considerable thickness of dry gauze and the limb is encased in a plaster cast, extending usually to the middle of the thigh

2 Thomas J T S Clinics N America 1 207 (Feb) 1921

REPORT OF CASES

The cases reported herewith illustrate various phases of compound fractures of the leg and of the results of treatment described above In all only the tibial fracture seemed to be compound and the small size of the skin wound indicated that it was due to penetration by the tibial fragment The treatment of the wound as outlined above for the extension cast method and for the method by direct fixation with plates, screws, Parham-Martin bands, etc, will not be repeated for each case

CASE 1.—An iceman aged 43 a free user of alcohol while at work in a stable Dec 26 1918 was struck on the back of the neck by a bale of hay which fell from the floor above He sustained a fracture of both bones of the left leg a tibial fragment protruding through the skin The bleeding was not severe He exhibited a heaving impulse over the precordium and a faintly palpable thrill at the cardiac apex which was displaced downward to the sixth interspace There was moderate cardiac enlargement and pulsation of the superficial vessels of the neck He had a soft double murmur heard best over the aortic area radiating down to the sternum and not transmitted to the vessels of the neck

He was admitted to the university hospital soon after the accident The upper tibial fragment was protruding from the wound The foot and both lower fragments were displaced backward and outward The intern cleansed the wound with tincture of iodin and alcohol and applied a sterile dressing On the same day, an extension cast was applied and the wound and surrounding skin were treated by the technic outlined above The wound was then enlarged the protruding fragment released and reduced the pull of the extension cast permitting a good approximation of the fragments The wound was closed by sutures without drainage and was dressed aseptically It was not covered by the plaster cast as in later cases Healing occurred without infection The cast was removed Jan 15 1919 and an ordinary one applied The second cast became loose and a third one was applied February 8 Two days later, he was discharged In about eight weeks after the accident, the third cast was removed and the patient used crutches He returned to his work about the middle of April, but he had worked only a few weeks, when heart trouble compelled him to give up again He then remained in bed until he died in July 1918

CASE 2.—A stone mason aged 34, Dec 28 1918, sustained a compound comminuted fracture about the middle of the leg

when a large stone, weighing in his judgment about a ton, fell on his left leg His reputation for honesty and skill as a workman was such that he was probably telling the truth The upper part of the leg and the lower part of the thigh showed considerable contusion and abrasion He was brought immediately to the Northeastern Hospital, where a wound was found in the skin of the inner side of the leg, just back of the tibia, at about the junction of the lower and middle thirds, or about 4 inches (10 cm) below the site of fracture of the tibia This indicated that the upper fragment had descended that far and had produced the skin wound which was about 1½ inches (4 cm) long An extension cast was applied the same afternoon and the wound was treated by the technic described above The wound was found to be very extensive when the sterile gauze pad saturated with tincture of iodin was carried to all its parts, indicating that the tibial fragments had been extensively stripped from their attached muscles by the force producing the fracture The roentgenogram taken afterward showed excellent position of the fragments

As in the preceding case, the wound area was not covered by the cast Jan 21, 1919 a new cast was applied, the wound having healed without infection, and, February 1, the patient was discharged He was readmitted, February 25, on account of poor union of the fracture which was plated on the following day He was again discharged in a cast in two weeks with an open wound and returned, April 14, for removal of the plate and two pieces of dead bone The union was not solid and, May 22, he began to wear a walking brace He seemed to have developed solid union about July 1, but continued to wear the brace until about the middle of the following November He had begun to work as a stone mason September 1, and has continued to do so ever since, earning his full wages from the beginning He now has one half inch (1.2 cm) shortening in the affected leg, with slight external bowing but excellent function

CASE 3.—A Lithuanian laborer, aged 48, April 1, 1919, sustained a compound fracture at the junction of the lower and middle thirds when a heavy load of steel rods fell onto his right leg He lost much blood and was brought to the Northeastern Hospital immediately after the accident, where open reduction was performed within a few hours, with essentially the technic described above This was the first case of this group in which the open method was adopted and a rubber drainage tube was employed A plaster cast was applied with a hole cut in it over the wound, to enable the wound to be dressed Within a few days the edges of the wound separated slightly, exposing the plate to view Slight infection of the wound followed The tube, plate and screws were removed at the end of two weeks and a new cast was applied with an opening in it for drainage The patient was put on crutches with the idea that better drainage from the upright position would be worth while He was discharged a few days later, with the request that he return to the dispensary for further dressings The thought was entertained that because of the benign character of the wound, which discharged slightly, going about in the open air would influence favorably the healing of the wound and would bring about earlier bony union This did not meet with the patient's approval and he gained admission to another hospital, May 13

The evidence appears to show that expectant treatment was followed, that is, new and larger openings were provided and the limb was kept continuously in a cast, a new one being applied from time to time During his stay in the hospital and afterward he says that eleven pieces of bone were removed from the wounds He remained in the hospital until Nov 13, 1919 The wound has since broken open a few times, usually with the extrusion of a piece of bone, the last time in June, 1921 He returned to his usual work in May, 1920, and has been able to perform such work continuously since, except when there was no work for him He has now (April 1, 1922) three-fourths inch (2 cm) shortening, the bone is somewhat thickened about the fracture area, the bony union and motion at the ankle are excellent, and so far as he can judge the leg is as good as it ever was

CASE 4.—A boy, aged 14, was knocked down by an automobile July 4, 1919 the wheels passing over both legs and breaking both bones in each leg The fracture was compound in the left leg The patient was brought promptly to the Northeastern Hospital Dr John A Broadfield was called immediately and began to operate on the compound fracture very soon afterward There was some comminution and considerable displacement of the fragments, but by traction and manipulation, they were placed in excellent position and fixed by a plate and six screws The wound was swabbed out first with tincture of iodin and later in the operation with dichloramin-T It was closed without drainage except for free spaces between the skin sutures A plaster cast was applied The fracture of the right leg was treated in a fracture box, the deformity being slight July 8, a window was cut in the cast and the wound inspected A dark brown secretion was exuding, but evidence of infection was slight July 18, the wound was partly open and the plate was visible a creamy pus escaping The temperature rose to 100.4 F. on the day following operation, subsided to normal in about ten days and remained about normal afterward The pulse did not rise above 110 after the day of operation on which it reached 150 September 12, a new cast was applied with an opening for drainage of the wound The patient was discharged from the hospital, September 24 December 8, he was readmitted for removal of a small sequestrum and curettage of the bone in the fracture area and was discharged three days later The cast was removed March 15 1920 He began to walk first with crutches and later with a cane The wound was completely healed about the middle of June, 1920 Strong bony union developed, with slight external bowing of the leg, due to a softer union in the early weight bearing stage So far as he can judge, this limb is now (March 15 1922) as good as the other, but there is a shortening of one-half inch (1.2 cm), with perfect motion in the ankle and knee and apparently perfect strength in the leg

CASE 5.—A motor truck chauffeur aged 22, sustained a compound comminuted fracture of the tibia and a fracture of the fibula when one wheel of a motor truck passed over his left leg He was brought promptly to the university hospital where an intern found a wound in the skin about the size of a half dollar, through which the end of the tibial fragment could be seen There was free bleeding from the wound The intern cleansed the surrounding skin with tincture of green soap and alcohol, cleansed the wound and packed it with sterile gauze wet with dichloramin-T because of the hemorrhage On the same day I applied an extension cast and treated the wound with the technic described above for the extension cast cases It was observed at this time that the extension exerted on the leg by the cast rendered the skin over a considerable area of the front of the leg pale It was thought at the time that this was only a temporary disturbance of the circulation which would disappear later, especially as a similar effect had been noticed in previous cases of simple fracture of the leg with no later untoward effect December 2, the wound showed evidence of infection and on the following day a small quantity of pus was evacuated and the Carrel-Dakin technic instituted December 3 the skin over the front of the leg in the area made pale by the extension about the size of the palm of the hand, showed evidence of necrosis From this time on it was necessary to care for an increasingly suppurating wound, associated with the sloughing surface tissues Jan 10, 1920, the extension cast was removed and a fracture box was substituted the loss of the extension becoming evident in a recurrence of the deformity of the fragments January 13, under ether and with a liberal use of tincture of iodin, two Parham Martin bands were applied, which held the fragments in accurate apposition so that the fracture box could still be employed About five weeks later a posterior splint was substituted for the fracture box, which permitted better care of the discharge February 10, the Carrel tubes were dispensed with and on the following day he was put in a wheel chair March 17 since we believed that the fragments would now maintain their good position without their support, we

removed the bands from the fragments, together with a loose piece of bone However, the foot and the lower fragments from their own weight slowly turned inward, causing a slight varus deformity April 7, the patient was sent home on crutches, where the rather large granulating surface was to be treated by his family physician In September a walking brace was applied, which enabled him to walk about without the support of a cane, and about a month later he went to work in a machine shop on a drill press About Jan 1, 1921 he again gave up work and did not try again until about the middle of the following September, when he went back to his old work as a motor truck chauffeur He has been able to do this kind of work since except for the idleness enforced by the following operation March 7, 1922, in the university hospital, I performed a skin graft operation on the unhealed granulating, wound surface, which was about the size of the palm, with much success April 27, there remained three unhealed irregular spots, each approximately a half inch (1 2 cm) in diameter There was no shortening, about a half inch (1 2 cm) elevation of the heel, slight varus position of the foot and about half of the normal motion of the ankle

CASE 6—A blacksmith aged 61, slipped on the ice, Feb 8, 1920 He was brought immediately to the university hospital where he was found to have a fracture of both bones of the left leg at the junction of the lower and middle thirds that of the tibia being compound On the same day an extension cast was applied and the wound treated as outlined above A roentgenogram taken afterward showed the fragments in excellent position February 19, the leg was movable in the cast, which did not cover the wounded portion of the leg The cast was then made to cover the whole leg, a small hole being cut in it over the wound for purposes of dressing February 25 it was discharging a small quantity of pus Dichloramin-T dressings were applied April 20, the cast was removed There was union of the fracture The pus had, however, slowly increased and burrowed to the region of the ankle Under gas anesthesia better drainage was afforded at the original opening and at the ankle June 3 he was discharged to return to the surgical dispensary for dressings of the wound He reported that after two visits the wounds closed and he returned to work He gave up again in a few days on account of a perineal abscess I did not see him after he left the dispensary until March 20, 1922 In July, 1920, he was admitted to another hospital, where better drainage was provided and where he remained for four or five months He has not worked since but he intends to return to work very soon March 20, 1922 there was no sinus, he had about a half inch (1 2 cm) shortening considerable limitation of motion at the ankle and slight elevation of the heel from shortening of the Achilles tendon

CASE 7—A girl, aged 15, was admitted to the university hospital, Aug 8, 1920, with a compound fracture of the left leg With the technic described above, an open reduction was performed after the wound had been enlarged and the fragments accurately approximated and fixed by driving two long nails through both across the line of fracture which was somewhat oblique The wound was closed without drainage, a sterile dressing applied and the limb, including the wound, was completely covered by a plaster cast, extending from above the knee to, and including the foot No infection developed She was discharged, August 18, to return later for the removal of the cast

She did not return but was attended at home by her physician, Dr William B Ewing, who split and removed the cast at the end of seven weeks, reapplying it and keeping it on until three months after the fracture occurred When the cast was first removed, the gauze covering the wound was moist with a dark serum The end of one nail, which appeared at a small opening, was removed Union of the fracture was not firm until the end of three months, when the sinus was closed April 30, 1922, I found one-half inch (1 2 cm) shortening, with a very slight posterior bowing at the seat of fracture, shown by the roentgen ray The mother and the patient said that her friends could not tell from the appearance which limb had been fractured while the function of the limb was perfect

CASE 8—A boy, aged 15, Dec 7, 1920 was kicked in the right leg by a horse, a compound fracture of the tibia and a fracture of the fibula resulting He was brought at once to the university hospital and an open reduction and fixation of the tibial fragments by three nails was performed on the same day, with the technic described above The wound and dressing were enclosed completely by a plaster cast from above the knee to, and including, the foot No infection resulted He was discharged, December 21, and returned four weeks later to have the cast removed He used crutches or a cane for a month more before beginning to bear weight on the fractured leg He returned to the hospital, Aug 15 1921, with a small discharging sinus over the seat of fracture The bone was exposed and this sinus was found to come from a loose nail which was removed The other two nails were so covered by bone that they could not be found easily and were not removed The wound was swabbed with tincture of iodin and closed without drainage and it healed without infection He was seen, March 19, 1922, at which time there were perfect shape and function of the limb, with no shortening

CASE 9—A man, aged 65, spare but in good health for his age, who lived largely an outdoor life, May 5, 1921, was thrown from a railroad "work car," sustaining a compound fracture of the left leg in the lower third He was brought to the university hospital on the same day, and in the receiving ward the leg was cleansed and a sterile dressing applied by an intern The upper fragment had become engaged in the skin after penetrating it and had carried this skin back into the wound underneath On the day of admission, an extension cast was applied by the technic referred to above It was necessary to make a longitudinal incision about 2 inches (5 cm) long in order to release and reduce the engaged end of the protruding fragment Under the traction exerted by the extension cast and with a little direct pressure on them the fragments were well approximated The wound was closed by chromic gut sutures without drainage and completely enclosed in a plaster cast from above the knee to and including the foot The after-course in this case was especially interesting The temperature and pulse seemed to indicate that no infection had taken place, but soon after operation, the patient began to complain of much pain about the seat of fracture, so that it became necessary to give him morphin for relief May 20, fifteen days after the fracture and its reduction, the cast was removed in order that the cause of the pain might be discovered The removal necessitated the administration of gas-ether anesthesia The sutured wound margins had separated about three-fourths inch (2 cm) at the widest part, and the upper fragment could be seen The external margin of the wound had undergone some necrosis and the gauze covering the wound had become wet through with a discharge resembling pus The wound cavity was cleansed thoroughly with sterile gauze sponges swabbed with tincture of iodin and then alcohol, and a sterile gauze dressing, wet with dichloramin-T, was applied This was fixed by a bandage The fragments, from the loss of the special cast extension, had lost their good approximation and overlapped somewhat They were straightened as much as possible and a new cast was applied from above the knee to, and including, the foot, covering the wound and dressing completely June 7, four weeks later, it was noted that there had been no evidence of infection shown by temperature, pulse or general condition, but that for the preceding few days there had been some pain at the seat of fracture, with a slight rise in temperature which otherwise would not have been considered important On this day an opening was made in the cast and the wound exposed It was distinctly smaller and cleaner than four weeks before A new sterile gauze dressing saturated with dichloramin-T was applied and held firmly in position by adhesive plaster strips, applied over the cast opening

The patient was discharged July 15 without any inspection of the wound since the last dressing four weeks before, there having developed no signs of infection in the meantime After twenty days more, August 4, he was brought back to the hospital and the cast and dressing were removed, a very

interesting condition being disclosed When the first cast was removed and the free discharge was found in the wound, in addition to the absence of constitutional signs of infection there were no local signs, other than the discharge, that is, no redness, tenderness, edema or any appreciable thickening of the tissues Eight weeks later, without any attempt at drainage, the pushle material had entirely disappeared and the wound, so far as gross appearances were concerned, was perfectly clean The granulations, apparently from the bone, had so grown into the meshes of the gauze that the latter could be removed only by tearing away these granulations, leaving a freely bleeding surface There was good bony union This surface cicatrized without difficulty soon afterward December 28, it was noted that he was walking with a limp and was using a cane which he expected soon to dispose of He returned to office work, March 1, 1922 The roentgen ray revealed posterior angulation at the seat of fracture and he still had some elevation of the heel from contraction of the Achilles tendon With a thickening of the heel of the shoe he walks very well without support and has returned to his work in the woods as a tree inspector

CASE 10—A colored man, aged 38, Sept 14, 1921, was knocked down by an automobile, sustaining a compound fracture of the left leg in the lower third He was brought immediately to the university hospital and operated on a few hours later, the technic described above being employed The wound was about 2 inches (5 cm) long and almost transverse It was enlarged longitudinally to about 3½ inches (9 cm) in this direction after the whole wound had been swabbed out with tincture of iodin The fragments were then approximated and fixed by an ordinary wood screw passed obliquely across the line of fracture through both The wound was then closed completely, a sterile gauze dressing wet with alcohol being applied as well as a plaster cast extending from above the knee to, and including, the foot No infection followed He was discharged, September 27, walking on crutches Following a suggestion of another surgeon on this day, the cast below the ankle was removed and two "stilt" like pieces of wood splint were applied, one on each side of the cast, and made to project below the foot These were incorporated in the cast by additional rolls of plaster of-Paris bandages, the object being to furnish an ambulatory cast and allow free movement of the ankle On the following day, I permitted him to walk on this "stilt' cast November 15, about nine weeks after the operation and accident, this cast was removed and a small discharging sinus was discovered over the fracture This had been covered completely for seven weeks by the cast without giving any detectable signs of infection constitutionally or locally, the patient repeatedly having stated that he experienced neither pain nor discomfort in this region The gauze covering the wound was somewhat thicker than the hand and considerably longer and wider It was slightly moist over an area about the size of the palm, excluding the fingers, with what looked more like dark blood than pus, that had escaped from the very small sinus There were no local signs of inflammation in the surrounding skin or deeper tissues After cleansing the sinus opening and skin about it with tincture of iodin and alcohol, a sterile gauze dressing moistened with dichloramin-T, and another cast like the preceding one but including the foot and without the stilts," were applied A week later he was advised to walk on the cast, the idea being to take advantage of weight bearing for its possible influence in favoring the development of bony union Jan 3, 1922, after walking on it for fifty-one days, during which neither the wound nor the sinus was exposed, the cast was removed The sinus was still discharging and bony union had not occurred There had been no local or constitutional signs of infection at any time except the discharge January 10, the screw was removed and the bone curetted at the site of the sinus and screw The wound was then swabbed out with tincture of iodin and completely closed with catgut sutures without drainage Another cast extending from above the knee to, and including, the foot was applied Since no signs of infection developed, this cast was not removed until February 28, seven weeks after it had been applied There was now no evidence of a sinus, the wound having healed completely, but there was still motion at the seat of fracture The use of a walking brace was ordered and he began to walk on it, March 17

CASE 11—A farmer, aged 26, Oct 8, 1921, was knocked down by an automobile He was taken immediately to a neighboring private hospital where he was found to have a compound fracture of the leg with a small wound in the skin, at about the junction of the middle and lower thirds of the leg Dr Samuel Bruck was called from Philadelphia on the following day and had the patient transferred to the Northeastern Hospital of Philadelphia, about thirty six hours after the accident and I saw him soon afterward The roentgenogram taken by Dr Bruck revealed a comminuted fracture of the tibia and a fracture of the fibula, the tibial fracture being compound An extension cast was applied at once with excellent reduction of the considerable displacement, and the wound was treated by the technic described above No infection resulted The cast was removed, October 27, when the wound was healed completely A new cast was applied without including the foot and side splints were so encased in the cast that they projected below the foot like stilts, the object being to permit walking on the cast with freedom of movement at the ankle October 21, the patient was discharged to walk on crutches, but a week later he was permitted to walk on the 'stilt' cast without crutches Finding that the stilt cast in Case 10 had resulted in the formation of a sinus and delayed union, November 20, it was removed from this patient and a new cast was applied from the middle of the thigh to, and including, the foot Soon afterward he was permitted to walk on this cast without crutches Jan 10, 1922 he had been walking on this cast about six weeks when it was removed and firm bony union was found at the site of fracture January 26 he could walk very well except for an exaggeration in the foot of the fractured limb of a normal tendency to flatfoot, due to a slight abduction of the lower fragments at the seat of fracture He had normal motion in the affected ankle and a shortening of this limb of one-half inch (1 2 cm) He could then do much, but not all, of his farm work

CASE 12—A boy aged 16, Oct 29, 1921, was working as a huckster when a horse fell on him He sustained a compound fracture of the right leg, which was caught under the horse There was a wound about an inch and a half (4 cm) long on the medial side of the leg, about 6 inches (15 cm) above the ankle joint, the tibia being broken a few inches higher and the fibula at about the same level There was about an inch (2 5 cm) shortening of the limb He was brought immediately to the Northeastern Hospital, and a few hours later a longitudinal incision, about 6 inches (15 cm) long was made over the front of the tibia, not including the wound which made the fracture compound, with the technic described above The fragments were approximated and fixed by two screws, passed obliquely through both fragments across the line of fracture The wound was closed completely, and a sterile gauze dressing wet with alcohol was applied over it, the limb being completely enclosed in a cast from the toes to the middle of the thigh No infection followed He was discharged from the hospital, November 22 walking on crutches The cast was removed eight weeks after the accident and he could walk without crutches soon afterward He had not worked since the accident because he could get no work to do, but he says he was able to work a few weeks after the cast was removed April 16, 1922, he had no shortening the leg was perfectly normal in shape and length, except for slight thickening of the bone about the fracture area and he had perfectly normal function in the limb

CASE 13—A railroad brakeman, aged 39, Nov 20, 1921, while shifting cars, was sideswiped' by a passing car and thrown to the ground, his right leg especially being injured It bled profusely and he arrested the hemorrhage partially by tying a handkerchief around the leg A little later he was found by a fellow workman, who stopped the bleeding completely by tying the tourniquet tighter He was brought immediately to the university hospital where he was attended

by the chief resident physician, Dr. Cook. The upper fragment was protruding through a skin wound. The leg of the underwear had also been penetrated and had been so entangled in the fragment that it had been carried into the wound and could be withdrawn only with considerable force. The surrounding skin was cleansed with tincture of green soap and a sterile dressing was applied without reducing the fragment into the wound. A Thomas splint, with a loop of bandage around the ankle for traction, was applied. Operation was performed about five hours after admission. The skin wound was situated over the antero-internal surface of the tibia and was from 2½ to 3 inches (6.5 to 7.5 cm.) long, its edges gaping an inch (2.5 cm.) or more in its widest part. With the technic described above the wound was enlarged to about 6 inches (15 cm.), the fragments were approximated and fixed by two screws passed obliquely through both fragments, the line of fracture being only slightly oblique. The wound was closed without drainage, a sterile dressing wet with alcohol and a cast extending from the middle of the thigh to and including the foot were applied. Since no signs of infection developed, the patient was discharged, December 3, walking on crutches. The cast *was first removed and the wound exposed eight weeks later*. There was some purulent discharge and odor. A granulating surface was found along the site of the incision, about 1½ inches (4 cm.) long and about three-fourths inch (2 cm.) wide, with a small sinus extending to the seat of fracture not large enough to admit an ordinary probe. This was laid open, and the loose screws removed. The surfaces of the sinus were curetted, including the granulating skin surface, and after covering the sutured wound edges with a sterile gauze dressing wet with dichloramin-T, they were all covered in completely by a plaster cast from above the knee to, and including the foot. There being no constitutional or local signs of infection in the meantime, this cast was not removed for five weeks, March 14. The wound was again opened, the line of fracture well curetted and the wound kept wide open by gauze packing. There was not the slightest tendency toward burrowing of pus away from the line of fracture. A cast similar to the others was applied with a considerable opening over the wound for dressings. This cast was removed, May 2, and union seemed firm. The wound was almost healed and showed little discharge. Another cast was applied with an opening in it for dressing the wound. The limb seemed perfectly normal in shape and measurement showed no shortening.

CASE 14.—A huckster, aged 32, Jan. 5, 1922, as he stepped from a moving motor truck weighing about a ton and a half, *slipped on the ice and fell*, one back wheel of the truck passing over both legs. He was brought immediately to the university hospital. Both bones of each leg were fractured, the left in the upper third and the right a little below the middle. Lateral splints were applied to the former and a fracture box to the latter. On the following day, it was observed that the patient could not sleep on account of excessive pain, especially in the left leg and that the foot on this side was becoming cyanosed. A fracture box was substituted for the lateral splints on this leg and an extension cast was applied to the right leg which improved the positions of the fragments that had shown about a half end-on approximation. During the first week the left leg and foot appeared to be becoming gangrenous, but in the succeeding days this condition ameliorated until the gangrene was limited finally to a few toes and the heel. January 22, the extension cast was removed from the right leg. The simple fracture had become infected and pus was exuding through a small skin opening over the tibial fracture converting the simple into a compound fracture. The intern, Dr. H. W. Williams, gave it close attention and used the Carrel-Dakin technic. The infection gradually subsided and, February 9, a cast was applied with a hole for dressing the wound. The treatment arrested any tendency to burrowing of the pus, such as developed in Cases 3 and 6. February 23, the fracture area was curetted and several pieces of bone were removed, the wound being then packed with gauze. April 11, the fracture area was again exposed, three or four *completely loose pieces of* dead bone were removed and the overhanging cortical portions of bone on each side of the fracture were chiseled away so as to expose well the softened fracture line, except in the small portion where the bone surfaces had united. The whole wound was kept as wide open as possible to encourage drainage and healing by granulation.

COMMENT

In thirteen of the fourteen cases, the treatment was that outlined in the preliminary remarks. In six of these thirteen, the extension cast was employed and in seven the operative method, without extension, was used. In three of the extension cast cases, primary healing was obtained and in three secondary healing. In two of the seven operative cases, primary healing resulted and in five secondary healing.

The end-result in every finished case has been excellent, except for moderate internal rotary deformity of the lower fragments in Case 5. This patient was able to follow his old occupation as a motor truck chauffeur, although he has preferred other and lighter employment up to the present time. He did go back to the truck long enough to satisfy himself that he could do this work.

Although other phases deserve attention, the character of the healing with complete closure of the wound and covering it with a plaster cast is most interesting and most deserving of the space and time allotted to the subject. The cases in which primary healing was obtained need no further attention. This may be most advantageously restricted to those in which failure occurred. The outstanding feature of the remaining eight of the thirteen was the absence of the ordinary signs of infection, such as developed in Case 14, which was not compound to begin with. Even in Cases 3, 4, 5 and 6, pain, redness and edema were conspicuous by their mildness or absence. In Case 5, the greatest interest attaches to the effect of the extension, which immediately produced an anemia of the skin and was followed by necrosis of the corresponding area of skin and subcutaneous tissue and this by slow separation of the necrosed tissue and prolonged suppuration. But there was at no time severe or positive inflammation of the surrounding living tissue. In the midst of this suppuration, with a liberal use of tincture of iodin for disinfection, the Parham-Martin bands were applied and well tolerated for nine weeks. Some burrowing of pus occurred, but was by no means extensive.

The most interesting individual case was Case 9, the developments in which were responsible for the unusual course pursued in Cases 7, 10 and 13. Had they followed instead of preceded Case 9, Cases 3, 4 and 6 might have been treated as Cases 7, 10 and 13. There was no sequestration of bone nor any burrowing of pus in the latter three. My own feeling is that mobility at the seat of fracture was responsible for the sinuses in these and might readily have prevented primary healing in Cases 3, 4 and 6, although the drainage tube in Case 3 may have been responsible. I am inclined to attribute the delayed union largely to such mobility. The importance of it in the breaking down the wound technic after the open treatment of fractures has probably not been sufficiently appreciated. Muscle contraction very likely is capable of producing such mobility, even when the limb is immobilized in a plaster cast, extending far above and below the seat of fracture. In not a few cases of simple fracture of the shaft of the femur in which plating has been performed, *a firm close cast, applied from the chest to, and includ-*

ing, the foot, and primary healing obtained, the roentgen ray has later showed the plate lifted from the bone at one end and the screws obviously loose In my opinion, the mobilizing effect of muscle contraction on the fragment ends is the most likely explanation of this condition

Since the completion of this paper I have operated on two patients with compound fracture of the middle of the humerus, using the tincture of iodin technic The first was a woman, about 55 years old, who was knocked down in the street by an automobile, March 14 After one week's unsuccessful attempt by a physician to correct the deformity, during which time the wound was drained by a piece of rubber dam and a tube, I plated the fracture March 21, introducing a drainage tube in the lower angle of the wound The dressings were not changed for nine days when the tube was removed and the wound redressed without drainage All dressings and splints were removed finally at the end of six weeks and two days, when bony union seemed to be firm, as determined by palpation and the roentgen ray

The second patient a boy, aged 10 years, fell from a height of about 18 feet (5 5 meters), May 13, 1922 The fracture was plated on the following day and the dressing applied then has not been removed since When I left home, March 21, seven days after operation he was very comfortable and had not shown any signs indicating infection of the wound

CONCLUSIONS

1 It is probable that most compound fractures of the leg are made compound by the protrusion of a fragment end through the skin, and that, consequently, the associated wound cavity is primarily free of infection except for that introduced by contact of the usual small wound surface and the protruding fragment end with adjacent objects, such as soiled clothing, dirt and other foreign bodies

2 The ordinary aseptic technic to prevent the introduction of more infection and the thorough swabbing out of the entire wound cavity to overcome the infection already present may be justifiably followed by complete closure of the wound without drainage

3 Improvement in results should be sought chiefly in a method of perfectly immobilizing the exactly adjusted fragment ends Success in finding such a method would materially increase the number of cases in which healing by primary union of the soft tissue wound and by primary union of the bone fragments occurs

4 The final results in this group of thirteen cases are much better than could be expected without the early accurate adjustment of the fragments and the cleansing effect of the tincture of iodin

1905 Chestnut Street

ABSTRACT OF DISCUSSION

DR. F B ST JOHN, New York As Dr Thomas has said, the leg is the most common site of compound fracture He further states that the ideal treatment is that which avoids suppuration and converts the compound into a simple fracture and in this I heartily concur I cannot quite agree that the most important question connected with compound fractures of the leg in general is to determine whether the wound and fracture are caused by direct or indirect violence It would seem to me of equal importance to determine the extent of injury to skin soft parts and bone and the probable amount of contamination, whether it be due to an external object directly causing the injury or to soil clothing or skin, and by extent of injury is meant the amount of devitalization of bone fragments or soft parts In the consideration of the type of compound fracture with which Dr Thomas deals we assume a relatively small wound made by the bone with the minimum amount of devitalization of bone fragments and soft parts with in the usual case, a relatively small amount of contamination but it is not always the case in compound fractures of the leg caused by indirect violence, and this should be emphasized Any rational form of treatment which adequately obtains and maintains reduction is desirable and in general, the simpler the fixation apparatus the more desirable it is The second principle viz, to combat infection the result of contamination already acquired and to prevent the introduction of any more, is of equal importance and I would add the prevention of dissemination of already acquired contamination by careless examination or unnecessary manipulation of parts In my experience it has been unnecessary to resort to the open operation for obtaining and maintaining reduction in this type of fracture as we have found that overhead suspension with traction has been satisfactory We also use simple molded plaster splints including the foot and extending well above the knee, with wide fenestration at the site of the wound In rare cases which do not respond to an intelligently applied closed method temporarily maintaining reduction by internal fixation especially a plate with screws never wire bands may be desirable but should be applied only by a surgeon with wide experience in successful operative bone work The open operation with internal fixation adds an unnecessary element of risk especially with primary closure We not infrequently employ partial or complete secondary closure of these wounds as when the bone is actually exposed, and after the immediate danger of infection has passed Obtaining and maintaining reduction by well applied external means without primary suture I believe to be the safest form of treatment especially in the hands of the average surgeon, and it must be remembered that it is he and not the specialist who treats the great majority of the usual compound fractures of the leg

DR FRED W BAILEY St Louis It has been a question in my mind whether the suggestion of Dr Thomas is a distinct improvement Experience of course, is the best teacher My experience with simple compound fractures due to indirect violence and such cases as he reports, is that they are by far the least troublesome I agree with him in the necessity of getting to these cases early before extraneous infection has taken hold and of careful preparation of the field, surgical cleanliness and the removal of all devitalized tissues after careful preparation of the field I agree with him in the value of aiming and holding in position the fractured end and in the main with internal permanent fixation in selected cases Mobility though slight, at the fracture site, such as often occurs in a cast with considerable padding offers less hope for complete primary union Sterilization of the wound and surface is a prime essential Pure iodin followed by alcohol may possibly do harm while it may control infection brought in to a degree, at the same time by further devitalizing the traumatized tissues a condition may be created which is ideal for the increase of infection The best method of treating a recent compound fracture, indirect in type is thorough sterilization of the field as for a major surgical operation apposition of the ends of the bone after the wound itself has been properly cleansed, the use of some good chlorin product, by the Carrel-Dakin method for two or three days, then removal of the drain and observation through a fenestrated cast, we then have the best reason to hope for an ultimately good result As for putting the plate in position in acute fracture, I think it is a thoroughly justifiable surgical procedure in selected cases but such cases are extremely rare I am still too timid to take any compound fracture direct or indirect, close it and place it permanently in a cast depending on the blood picture, pulse and temperature as to whether they are running a benign course

DR. W D COUGHLIN, St Louis I do not yet know how to tell whether I am dealing with a noninfected compound

fracture It is true in many cases that the patient soon converts his small wound into a healed wound and so he has made a simple fracture of a compound fracture, but I have seen so much unnecessary mutilation and so many unnecessary deaths as a consequence of having had these noninfected fractures closed promptly, without drainage, that I am unalterably opposed to it I do not believe that any compound fracture wound should be closed up by any one and every one If Dr Thomas and others like Dr Thomas choose to treat a fracture in any particular way, I have nothing to say, but as a matter of teaching what should be taught to the rank and file of the profession, I think I am quite safe in saying that there are about four fundamental principles to be observed in the treatment of compound fracture one is cleanliness, to remove devitalized tissue I do not understand how in a noninfected fracture there can be very much devitalized tissue The second is reduction, and third the most essential principle in the treatment of a compound fracture, permanent and absolute fixation, if it is possible to obtain it How to make drainage depends altogether on the experience of the operator If he has no experience, the patient will be better treated if provision is made for drainage, but there should be fixation reduction and cleanliness No attempt should be made to close the wound Whether to use a plate at the time of first treatment must be considered, but it ought to be the concensus of opinion of teachers of surgery that the less you meddle with compound fractures the better off the patient will be

Dr Florus F Lawrence, Columbus, Ohio One of the things that was settled years ago was the way fractures healed and the rarity with which osteomyelitis followed compound fractures Infection of the bone is the exception, and generally if there is infection it is of the soft parts The most dangerous type of infection is with the tetanus bacillus When we remember that oxygen is the natural defense against tetanus, it follows that if we cleanse the wound thoroughly with oxygen, or hydrogen peroxid, we may obviate any possibility or danger of tetanus So, in the past twenty years or more, in all compound fractures, I have enlarged the opening when necessary to obtain complete hemostasis and to expose the bone, that it may be sutured or wired or nailed I then flush the wound with a solution of hydrogen peroxid and close it The fact that we have been treating bone does not mean that we must drain A wound of bone unites as readily as a wound in soft parts if we give it the same opportunity, if we suture, nail or wire the fragments, removing those parts that are devitalized, or liable to become necrotic, and, above all, remove seriously damaged soft tissues from the wound and leave the wound protected As Dr Thomas suggested, we can close compound fractures and secure 95 per cent uninfected wounds and primary union of both the bone and soft parts with perfect anatomic and functional results

Dr Isidore Cohn, New Orleans I have been teaching students to treat as many of these fractures as simple fractures as possible Thus I would excise what seems to be devitalized tissue and pack the wound with dichloramin-T, but never suture primarily In all these cases we give antitetanic serum Moreover, after excision of devitalized tissue, we do not put on plates or wire There is a possibility of infection in compound fractures, and in the event of this, plates and screws become loosened and are not as effective as they might be We use the portable roentgen-ray apparatus and immediately reduce the deformity by the McKenna traction table We have been greatly pleased to see end-to end apposition in most of the cases In my own work, it has not been necessary in a single case to put on a plate or use wire or screws or anything of the kind One thing that impressed itself on me was the use of a cast by Dr Thomas for nine weeks without changing If we leave a cast on nine weeks, the muscles will atrophy and contractures will result In order to obtain the best results, it is necessary to change casts frequently, to give baths and massage as well as resistive exercises The nonweight bearing brace diminishes the period of total disability

Dr H W Orr, Lincoln, Neb I must confess to a certain measure of astonishment when I hear certain points with reference to the treatment of fractures debated that have been debated here this morning One or two of the speakers have pointed the way to a solution of our problems, emphasizing the point that we must adhere to fundamentals First of all, we must have anatomic reposition of injured parts at once and must maintain good relationship till healing occurs If we disregard these two things, we have disregarded the principles that are essential for good results To talk of putting metal plates regularly into compound fractures is suggesting something which, in the light of our war experience, no possible percentage of results can possibly justify With our present resources in the matter of proper reposition and immobilization with Thomas splints and such adjuncts as ice tongs and bone pins, it is never very difficult to get proper position and to retain such position until there is good healing

Dr Daniel F Jones, Boston It is undoubtedly true that men of large experience can select the cases in which there may be closure without drainage, but for the average surgeon the closure of compound fractures is a dangerous procedure It is particularly dangerous to close the wound without drainage after putting in a steel plate We must not forget that the great majority of these fractures of the lower leg can be held in position by traction If skin traction or the Sinclair skate cannot be used, sufficient traction can always be obtained by a pin, either over or through the os calcis to hold the fragments in place

Dr William Fuller, Chicago I believe that practically all surgeons agree that the use of any foreign material such as screws plates and wire, in the treatment of compound fractures is a serious mistake, except in very rare instances The first and prime consideration in all compound fractures is the prevention or elimination of infection in the wound So important is this that the bone lesion itself may, with advantage be ignored at first, except for some simple appliance which will prevent further trauma of the soft parts by the sharp ends of the fragments Time does not appear to be valuably spent when we occupy it at this late day in discussing papers advocating the use of foreign material in the treatment of the fractures of the long bones especially compound fractures It is reasonable that the manipulations necessary to introduce foreign material for the purpose of holding a fracture will add a great and serious element of trauma to tissues already damaged in compound fractures Such measures cannot be condemned too emphatically

Dr Dennis W Crile, Chicago I have recently had an opportunity to look up the results in a large number of fractures of the leg The period of disability was five times as long in those cases in which internal fixation had been used as it was in those treated without any sort of internal fixation I think the use of metal fixation is a vicious practice when dealing with compound fractures, with rare exceptions The worst results I have ever seen have been those in which metal has been introduced in the presence of infection We never introduce any metal or foreign substance into any compound fracture

Dr T Turner Thomas, Philadelphia I laid before you what I had been doing with compound fractures of the leg, the why of it and the results Can any one show where internal fixation has done damage? There has not been a single case in which the fear of infection concerned me Give me a method by which I can absolutely immobilize these nicely adjusted fragment ends and I am confident that I shall show a greater percentage of primary healings than I have reported today To have used a method of continuous extension, in my opinion, would have favored unsatisfactory development and, with drainage, would have favored infection I wanted a method that would give firm fixation of the fragments and as nearly perfect reduction as possible at one sitting, with thorough cleansing of the wound I believe that no one has yet shown better results in a similar number of cases of the same kind Nearly every case had a nearly normal end-result Neither life nor limb was threatened in any case

and I lost no sleep What I have been interested in much more than in these compound fractures is to establish the idea that most fractures of the long bones, including compound fractures, are due to a fall and consequently to indirect violence If this is true then most of these compound fractures are being presented to us with perfectly clean wounds except for what infection the usually briefly protruding fragment and small surface may pick up May not tincture of iodin be trusted to neutralize that? Some one said that he could not tell which wound was infected and which was not No one can But believing in the fracture mechanism I tried out this method of treatment with caution and it worked In the early cases, I kept the wounds uncovered by the cast ready for quick exposure on the slightest indication of infection Continuing experience brought increasing confidence and an increasing desire for perfect immobilization so that the close fitting complete cast was later resorted to and never afterward abandoned I cannot see that I should hold myself responsible for what some one else may do with the method On the other hand it might well happen that in the hands of the average surgeon it would give better results than the methods which have been in vogue In some of the early cases the small amount of pus burrowed persistently for a long time but even in them I had far less trouble than in similar cases treated by open methods Again let me emphasize that the pathogenesis of the compound fracture offered here is an offspring of the general mechanism of fractures and dislocations already mentioned and that they are expected to stand or fall together

THE CHAULMOOGRA OIL TREATMENT OF TUBERCULOUS LARYNGITIS

ROBERT A PEERS M D
AND
SIDNEY J SHIPMAN M D
COLFAX, CALIF

Recently Lukens[1] called attention to the use of chaulmoogra oil in the treatment of tuberculous laryngitis, stressing the relief of pain and dysphagia which followed its use Certainly, any agent which is capable of relieving the distress caused by an actively tuberculous larynx is worthy of the utmost consideration, and should be given a trial

Although the use of chaulmoogra oil has been attended by quite markedly beneficial results in the treatment of leprosy and, by some, is regarded as a specific in this disease, its use in tuberculosis is still in the experimental stage Kolmer, Davis and Jager[2] have shown that the oil has no effect on virulent tubercle bacilli in their experiments on guinea-pigs, using an in vitro-vivo method Therefore, we should not expect the oil to act as an active bactericidal agent in any lesions Voegtlin, Smith and Johnson,[3] in a more extensive set of experiments, arrive at the same negative conclusion and, indeed, in one of their series they state that the treatment of their infected guinea-pigs with chaulmoogra oil may have been actually injurious

In view of these facts, Rogers'[4] note of warning that chaulmoogra oil should be cautiously used, and then only by experts, seems peculiarly apropos

In the Colfax School for the Tuberculous, seven patients were set aside for treatment with chaulmoogra oil These patients were purposely chosen because of the severity of their laryngeal lesions which, with one exception, caused excruciating pain and dysphagia With this one exception (Case 6) they were all febrile patients with far advanced pulmonary tuberculosis, and the prognosis was, therefore, grave The most that was hoped for was the relief of symptoms In all seven of the patients, there was involvement of the epiglottis arytenoids and the cords

The accompanying table shows the duration of treatment, which was carried out after the method described by Lukens with a laryngeal syringe, the pulmonary condition and the symptoms before and after treatment

In these cases the treatment was an average of three injections a week, beginning with a 10 per cent solution of chaulmoogra oil in olive oil for one week, followed by a 20 per cent solution thereafter

TREATMENT AND RESULTS

Case	Duration of Treatment in Weeks	Lung Condition		Symptom Before Treatment			Symptoms After Treatment		
		Before	After	Temperature	Dysphagia	Aphonia	Temperature	Dysphagia	Aphonia
1	7	Right moderately advanced left advanced	No change	100 to 102°	+	+	99.7 to 103.4	0	+
2	6	Right advanced left advanced	Improved by roentgen ray	Normal to 101+	+	Slight	Normal to 101+	Slight	+
3	7	Right advanced left moderately advanced	Progressive	Normal to 102+	+	+	100 to 101+	+	+
4	8	Right advanced left advanced	Progressive	99.4 to 101.2	+	+	100 to 103.3	+	+
5	2	Right advanced left advanced		99.5 to 100+	+	+	99.2 to 102.2	+	+
6	6	Right advanced left advanced	Arrested	Normal	0	+	Normal	0	-
7	4	Right advanced left advanced	Progressive	101.8 to 103.6	+	+	102.4 to 104	+	+

From a study of the table it will be seen that in only one instance (Case 1) were the subjective symptoms markedly altered In this case the relief of the dysphagia was remarkable The patient now states that her throat feels much better, and that she swallows more easily Examination reveals a normal appearing epiglottis, small arytenoids, and cords thickened but pale While there is no doubt that the local condition is much better, we must not forget that all tuberculous foci show a marked tendency to remissions and exacerbations, and that the improvement shown in Case 1 may be merely a remission and not necessarily an improvement resulting from local medication

Unfortunately, tuberculous laryngitis is usually secondary to pulmonary tuberculosis, in any treatment the general condition must also be considered In our series of cases, the general condition of two showed no change Patient 2 was receiving other special treatment, and so cannot be considered Patient 6 had an arrested case, and was given the oil merely because he asked for it and no change in his general condition was expected With these exceptions, the general condition of every patient grew steadily worse Their temperatures averaged consistently higher in the afternoons and evenings than they had previously Whether or not this was caused by the oil we are not at present prepared to state, but it was the phenomenon observed

1 Lukens R M Chaulmoogra Oil in the Treatment of Tuberculous Laryngitis J A M A 78 274 (Jan 28) 1922
2 Kolmer J A Davis L C and Jager R Influence of Chaulmoogra Oil on Tubercle Bacillus J Infect Dis 28 265 (March) 1921
3 Voegtlin Carl Smith M I and Johnson J M Therapeutic Value of Chaulmoogra Oil and Its Derivatives in Experimental Tuberculosis J A M A 77 1017 (Sept 24) 1921
4 Rogers L Successful Treatment of Leprosy by Chaulmoogra and Other Oils Practitioner 107 77 (Aug) 1921

Indeed, in Case 1, in which the larynx itself showed such marked improvement, the temperature fell an average of 1 degree F shortly after the oil was discontinued

It should be stated that, in general, the patients said that their throats felt somewhat better after each treatmen Except in Case 1, this was transitory, however, and in two cases, 5 and 7, injection of the superior laryngeal nerves was necessary to relieve the pain

CONCLUSIONS

1 Intralaryngeal applications of a 10 to 20 per cent solution of chaulmoogra oil in olive oil may relieve the dysphagia of an advanced laryngeal lesion entirely, but such relief has followed its use in only one out of our seven cases Slight temporary relief occurred in every case

2 On the other hand, the general condition of a febrile patient may, possibly, be unfavorably influenced by such treatment

3 Caution should be used in the laryngeal treatment of tuberculosis with chaulmoogra oil until more accurate data are in our possession concerning its local and general effects

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CHAULMOOGRA OIL IN THE TREATMENT OF TUBERCULOUS LARYNGITIS

FRANK L ALLOWAY, S B, M D
AND
JAMES E LEBENSOHN, M S, M D
CHICAGO

Since the publication of Lukens' paper [1] on the use of chaulmoogra oil in tuberculous laryngitis, we have introduced this treatment in the Throat Clinic of the U S Veterans' Hospital, Maywood, Ill Of the patients in this hospital, from 300 to 400 are suffering from pulmonary tuberculosis in some of its various stages In the last four months, forty cases of tuberculous laryngitis were selected for treatment with chaulmoogra oil Our technic differs from that of Dr Lukens only in these respects A special laryngeal syringe is used, the patients are treated daily, and only the 20 per cent solution of chaulmoogra oil in liquid petrolatum is employed

The cases handled fall into four groups

GROUP 1

The largest number treated were those with distinct but not extreme laryngeal lesions These patients had generally been hoarse for months previous to treatment, and had various degrees of discomfort, ranging from a vague sense of pain referred to the throat to definite dysphagia In these cases the symptoms were controlled by the intralaryngeal injections of chaulmoogra oil, though in the severer cases some vestige of discomfort maintained itself The dysphagia is often relieved in a few treatments, but the condition of the voice has been found to be generally but slowly affected

One remarkable case of this group should be cited

J J S had dysphagia and hoarseness for more than six months His general condition was fairly good, but his throat caused him much distress The first attempts at swallowing were exquisitely painful, with excruciating radiations to the ears After the first few swallows the acts of deglutition became somewhat more tolerable The objective findings consisted chiefly of patches of ulceration and infiltration involving the posterior two thirds of both cords, pale infiltration of the aryteno-epiglottidean folds, particularly the right, and sprouting granulations in the interarytenoid region This case was the "chorditic" type of tuberculous laryngitis, in which the arytenoids had become secondarily involved For the first three days of the chaulmoogra oil treatment the patient could notice no change On the fourth and fifth days, improvement was admitted He remarked then that his voice felt stronger and clearer On the eighth day he felt entirely free from discomfort, his appetite had greatly improved, and he spoke without effort Since then his lesions have progressively resolved, and his laryngeal condition has improved in every way

Some cases that at first failed to respond satisfactorily to the chaulmoogra oil treatment went along excellently after one or two applications of Lake's pigment [2] had been given and the chaulmoogra oil treatment continued Control of pain was secured in moderately advanced laryngeal lesions even in cases of advanced tuberculosis that went on to a fatal issue Occasionally the anodyne effect of orthoform had to be used as an adjuvant In none of these cases was cocain used

GROUP 2

The second group of cases included those of early tuberculosis in which the laryngeal symptoms were only a subjective sense of tickling or irritation in the throat, associated with slight hoarseness or weakness of the voice The physical signs revealed by the laryngoscope were slight These cases often cleared up surprisingly after a few treatments Occasionally the pain would recur after the treatments had been discontinued, but would then be as quickly controlled as originally

An interesting case was one of pachydermia laryngis Hoarseness and weakness of the voice had extended for many months With the first few treatments a remarkable improvement in the voice occurred A further strengthening of the voice took place after tonsillectomy The case was pronounced nontuberculous by the medical department

GROUP 3

The third group included those of advanced tuberculosis with advanced laryngeal lesions, that had previously not been benefited by the usual treatments Chaulmoogra oil likewise was not able to afford them any lasting comfort The dysphagia complicated their other miseries till the inevitable end

GROUP 4

Chaulmoogra oil treatment was also carried out in cases of chronic laryngitis dependent on nasal conditions, but without any particularly beneficial results

A few cases of syphilitic laryngitis that were characterized by dysphagia were treated with the oil at the same time that vigorous antisyphilitic treatment was being given The chaulmoogra oil did not seem to be of especial value in these cases

It perhaps deserves mention that a skin lesion of the nose in a tuberculous patient pronounced lupus by the dermatologists was treated with chaulmoogra oil with gratifying results The lesion, when first seen, was of six weeks' duration, and had become progressively more tender and prominent After a week's use of

1 Lukens R M Chaulmoogra Oil in the Treatment of Tuberculous Laryngitis J A M A 78 274 (Jan 28) 1922

2 The formula introduced by Lake consists of lactic acid 50 gm liquor formaldehydi 7 c c phenol (carbolic acid) 10 gm distilled water sufficient to make 100 c c The phenol acts as an anodyne and pain rarely lasts more than a few minutes Cocain is only occasionally needed for the first few applications when the throat is unduly irritable

chaulmoogra oil, all discomfort had disappeared and the lesion showed marked regression The patient is still under treatment

CONCLUSION

Chaulmoogra oil, we believe, should have a definite place in the treatment of laryngeal tuberculosis It is useful in the majority of cases, though in the treatment of laryngeal tuberculosis as a whole it cannot entirely replace the other forms of medication, such as the cocain-epinephrin spray, orthoform, menthol and Lake's pigment, superior laryngeal nerve blocking, epiglottidectomy, etc

Some may be skeptical of the value of chaulmoogra oil, as employed in these cases, because the mechanism of its action is not clear It may be true that the oil has no specific effect, but its beneficial action can be perhaps adequately explained by its detergent, anesthetic and counterirritant properties Barwell[3] says "Intratracheal-oil injections act in the same way (i e like steam inhalations and oil nebulae) in relieving dryness and soreness of the throat, and I have found them very useful in cases of advanced ulceration, reducing inflammation and relieving discomfort" He employed a 1 per cent solution of menthol in liquid petrolatum, but from both theoretical considerations and clinical experience it would appear that chaulmoogra oil should act more efficaciously

3159 West Roosevelt Road

Clinical Notes, Suggestions, and New Instruments

A SIMPLE MECHANICAL STAGE

PHILIP REICHERT RAY BROOK N Y

The apparatus here described is a simple efficient and inexpensive mechanical stage for the use of students practicing microscopy

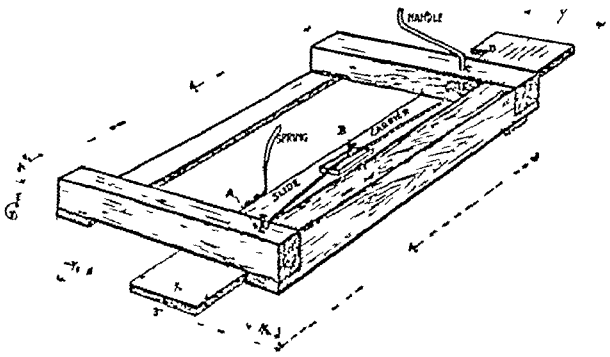
The frame is of wood, well smoothed with fine sandpaper, and glued at the corners Its outside dimensions are 3 by 4 inches On the right cross-piece a vertical hole receives a handle made by bending heavy wire into shape A large opening has been drilled horizontally beneath, making the wire accessible from the side so that a thread may be wound about it by turning the handle

The slide carrier imitates those on the expensive machines It is made of wood 5½ inches long, ⅛ inch thick and ½ inch wide, except for a projection on the right side which makes the width on that side ¾ inch This projection receives the slide, a flat spring cut from thin brass ⅛ inch wide and 2 inches long is placed at a suitable distance on the left to hold the slide against this projection The spring is fastened to the carrier by means of two wire brads, it is wise to hold the thin board in a vise while the brads are being driven so as not to crack the wood

The post *B* is set on a block 1 inch long, ½ inch wide and ⅛ inch thick The left margin of this block must be 2½ inches from the left margin of the slide carrier A rubber band is stretched from this post to the post *A* Placed diagonally as shown, it tends to draw the slide carrier to the left, and at the same time keeps it tight against the frame so that the slide will ride smoothly and not wobble

The action of the rubber band is opposed by a heavy black thread which is fastened to the post *B*, the other end going into the horizontal opening in the right cross piece and winding about the lower end of the handle at *C* The handle should have a radius of about 1 inch It is evident that rotation of the handle will cause the slide carrier to move from left to right or reverse

The frame is mounted on the stage of the microscope and held in place by means of a heavy rubber band or a screw clamp such as may be purchased at any hardware shop When one horizontal excursion is complete, the clamp is loosened and the frame is moved either forward or backward and



Simple mechanical stage

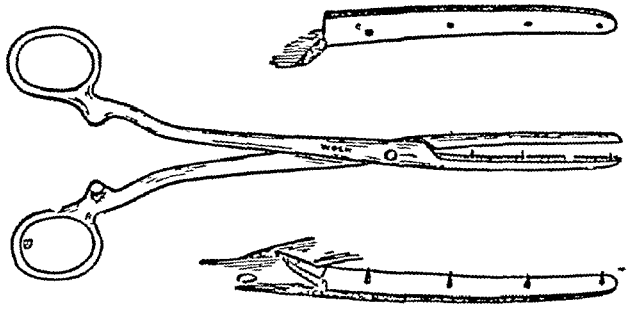
again clamped so as to permit a new part of the field to pass beneath the objective

The cost of the materials is approximately 25 cents, and the apparatus can be easily made in less than an hour In practice it permits steady and accurate control of the movements of the microscopic field

A NEW MUSCLE CLAMP

JOSEPH L DECOURCY M D CINCINNATI

This muscle clamp was adopted primarily for muscle section in thyroidectomy The requirements of such a clamp are to exert a hemostatic action on the vessels of the muscle and at the same time to hold the muscles and fascia in a firm grasp without crushing the tissues The disadvantage of the clamps thus far used, in my opinion, has been that their crushing action not infrequently leads to tissue necrosis and favors infection and adherent scars



New muscle clamp

The clamp consists of a smooth surface with four sharp protrusions as shown The protrusions insert themselves into the fascia and muscles and hold them firm while just sufficient pressure is made from the smooth surfaces of the clamp to close the thin walled vessels without making undue pressure on the other tissues

A Prescription—Filling a prescription is not the same as buying a suit This the customer realizes The man who has been cheated on furniture or wearing apparel has pretty much himself to blame, for he should have some knowledge of what he is buying The same is not true of medicine The customer trusts implicitly, to the druggist, he expects his prescription to be filled by one who knows how to compound medicine and he expects to receive the best drugs—Presidential Address W Gay Clark, Tennessee Pharmaceutical Association

[3] Barwell Harold Diseases of the Larynx Oxford University Press 1907

DISPENSARY SERVICE IN THE UNITED STATES

FIRST PRESENTATION OF DISPENSARY DATA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

The object of this census of dispensaries by the Council on Medical Education and Hospitals is to obtain and tabulate data on the medical institutions for *ambulatory* patients, similar to that already published regarding hospital service in the United States To visualize the work done by all the various dispensaries and clinics requires a simultaneous survey of all of them, including dispensaries that are conducted as outpatient departments of hospitals, independent dispensaries, special clinics, such as tuberculosis, mental hygiene, venereal disease, baby and child hygiene and eye, ear, nose and throat dispensaries, as well as industrial dispensaries and group practices

The number of each kind of dispensaries known to exist in the United States is given in Table 1

TABLE 1—NUMBER AND CLASSIFICATION OF DISPENSARIES IN THE UNITED STATES

General dispensaries		946
Special dispensaries		
Tuberculosis	667	
Venereal disease	487	
Mental hygiene	260	
Baby and child hygiene	566	
Outpatient departments of eye ear nose and throat hospitals	37	
Outpatient offices and stations of the United States Public Health Service	119	
Outpatient departments of orthopedic hospitals	16	
Miscellaneous	53	
	—	2 [illegible]
		3 [illegible]
Industrial (enumeration not completed)		9[illegible]
Total dispensaries known		3 [illegible]43

There are still other dispensaries of each of the several classes that have not responded or about which there are not sufficient data to classify them Particularly is the enumeration of industrial dispensaries incomplete The number of industrial dispensaries has been placed at something more than 400 by some who are in touch with industrial medicine This estimate is very conservative There is evidence to support an estimate that the dispensaries and clinics of all kinds that provide the services of physicians for ambulatory patients, including industrial dispensaries with salaried physicians, would number more than 4,000

As to the amount of service rendered, the general dispensaries that furnished reports handled 3,872,345 patients, who made 11,798,887 visits during the last fiscal year Including a reasonable estimate for the general dipensaries that did not report, these figures would be increased to 4,250,000 patients and 13,500,000 visits In the special dispensaries the average number of patients in each institution is considerably lower than in general dispensaries, but the average number of visits per patient is much larger An estimate based on reports received indicates that the special dispensaries cared for a total of 3,750,000 patients during the year, who in that time made approximately 16,000,000 visits The grand total, therefore, of patients in all general and special dispensaries and clinics would number approximately 8,000,000 and the visits made by them, approximately, 29,500,000 The number of separate individuals using dispensaries and clinics is less than 8,000,000, since allowance must be made for those who patronized two or more institutions during the year

By adding to the special dispensaries enumerated in Table 1 the number of clinics of corresponding kind reported as being held in the general dispensaries, it will be found that there are at least 863 separate dispensaries and clinics for tuberculosis, 793 for venereal diseases, 454 for mental hygiene, 881 for baby and child hygiene, 631 for eye, ear, nose and throat, and 255 for orthopedics

TABLE 2—NUMBER AND WORK OF GENERAL DISPENSARIES BY STATES

State	Population 1920	No of General Dispensaries	Patients Last Fiscal Year	Visits by Patients Last Fiscal Year
Alabama	2 348 174	7	37 [illegible]07	113 455
Arizona	334 162	3	56 091	69 182
Arkansas	1 752 204	9	12 284	67 901
California	3 426 861	56	193 9[illegible]0	599 751
Colorado	939 629	6	106 7[illegible]4	148 003
Connecticut	1 380 631	16	32 270	136 719
Delaware	223 003	5	8 782	35 571
District of Columbia	437 571	13	23 3[illegible]1	60 7[illegible]0
Florida	968 470	4	16 213	10 226
Georgia	2,89[illegible] 832	5	11 109	69,882
Idaho	431 866	1	912	2 751
Illinois	6 48[illegible] 280	48	169 872	559 453
Indiana	2 930 390	10	15 913	47 703
Iowa	2,404 021	11	17 4[illegible]5	45 997
Kansas	1 769 257	11	29 537	60 [illegible]91
Kentucky	2 416 630	14	27 8[illegible]5	113 57[illegible]
Louisiana	1 798 509	12	78 575	281 068
Maine	768 014	8	4 641	14 508
Maryland	1 449 661	25	111 775	3[illegible]7 49[illegible]
Massachusetts	3 [illegible]2,356	74	268 775	1 0[illegible]3 [illegible]9[illegible]
Michigan	3 668 412	31	127 215	303 931
Minnesota	2 387 125	17	60 150	23[illegible] 791
Mississippi	1 790 618	5	16 119	10 022
Missouri	3 404 0[illegible]5	28	130 973	533 482
Montana	548 889	5	17 535	39 933
Nebraska	1 [illegible]96 372	9	17 550	68 801
Nevada	77 407	3	6 609	17 2[illegible]9
New Hampshire	443 083	3	861	2 244
New Jersey	3 155 900	42	134 856	376 981
New Mexico	360 350	1	1 500	
New York	10 38[illegible] 227	163	1 182 818	3 439 0[illegible]8
North Carolina	2 559 123	9	6 948	22 90[illegible]
North Dakota	646 872	2	853	204
Ohio	5 759 394	40	140 805	461 613
Oklahoma	2 0[illegible]8 283	4	2,352	16 214
Oregon	783 389	3	2 0[illegible]0	4 [illegible]50
Pennsylvania	8 720 017	136	537 438	1 689 512
Rhode Island	604 397	13	33 781	137 860
South Carolina	1 683 724	7	21 0[illegible]8	26 [illegible]06
South Dakota	636 547	7	11 143	71 [illegible]09
Tennessee	2 337 885	9	3[illegible] 717	109 404
Texas	4 663 228	13	29 560	90 3[illegible]8
Utah	449 396	4	4 985	5,277
Vermont	3[illegible]2 4[illegible]8	4	3 513	7 020
Virginia	2 309 187	14	47 868	88 446
Washington	1 356 621	9	4 964	59 490
West Virginia	1 463 701	10	5 009	7 [illegible]39
Wisconsin	2 632 067	14	62 733	149 576
Wyoming	194 402	3	2 151	4 7[illegible]0
Totals	10[illegible] 710 6[illegible]0	946	3 8[illegible]2 345	11 798,887

On pages 466 to 475 appears a list of 946 general dispensaries or those that provide general medical and surgical care for the ambulatory sick of the communities which they serve The list gives the name and local address of the dispensary and, opposite each, (1) the number of individual patients received last fiscal year and (2) the number of visits made by these patients during the last fiscal year as reported by the

medical director or superintendent. Additional data on special dispensaries are being prepared for later publication in THE JOURNAL, and will be included in a special reprint of dispensary information.

The number of general dispensaries and the work done by them during the last fiscal year are summarized by states in Table 2. Similar data for the fifty largest cities of the United States are given in Table 3.

TABLE 3.—NUMBER AND WORK OF GENERAL DISPENSARIES IN FIFTY LARGEST CITIES

	Population 1920	General Dispensaries Reporting	Patients Last Fiscal Year	Visits by Patients Last Fiscal Year
New York	5 621 151	69	0 84(	2 699 561
Chicago	2 701 705	33	1 1 193	498 2 0
Philadelphia	1 823 779	51	3.6 (80	1 1.6 776
Detroit	993 739	9	71 116	170 607
Cleveland	796 836	11	61 705	279 66,
St Louis	773 000	13	8(242	4 8 6 3
Boston	748 9 3	27	189 692	793 040
Baltimore	733 8 6	22	109 25"	2.3 8(
Pittsburgh	588 193	15	49 701	1(_ 01
Los Angeles	575 480	3	60 77	102 9 3
San Francisco	500 676	15	63 142	208 10
Buffalo	506 875	11	39 764	107 3.3
Milwaukee	457 147	7	37 8.3	80 95"
Washington D C	43 414	13	93 3 1	60 700
Newark N J	414 216	6	26(8	10, 5.1
Cincinnati	401 158	6	24 73,	83 2 0
New Orleans	387 408	6	68 0 4	218 287
Minneapolis	380 582	4	19 157	10" 060
Kansas City Mo	324 410	10	38 021	78,8.0
Seattle	315 652	3		31 914
Indianapolis	314 194	2		
Jersey City N J	297 864	4	2" 0 3	50,206
Rochester N Y	295 750	3	0 289	41 671
Portland Ore	258 288	2	10 78,	18 018
Denver	256 369	1	7 439	25 713
Toledo Ohio	243 164	5	3 946	9 964
Providence R I	237 595	7	21 5.0	83 280
Columbus Ohio	237 031	4	20 758	11 928
Louisville Ky	234 891	3	13 088	83 6 2
St Paul Minn	234 (80	1	6 "60	21 804
Oakland Calif	216 361	3	10 997	54 779
Akron Ohio	208 43,	1	14 89,	47 7..
Atlanta Ga	200 616	1	6 4"6	3",861
Omaha	191 601	4	16 .96	68 3 1
Worcester Mass	179 741	4	1" 4"5	4, 140
Birmingham Ala	178 276	3	18 6 9	62 178
Richmond Va	171 667	2	11 343	31 347
Syracuse N Y	171 647	1	5 "67	27 739
New Haven Conn	162 309	3	6 26"	56 880
Memphis Tenn	162 351	1	13 311	46 193
San Antonio Texas	161 379	2	7 754	20 276
Dallas Texas	158 976	2	3 316	8 "40
Dayton Ohio	152,5.9	2	5 480	9 433
Bridgeport Conn	149 15"	3	12 "88	51 756
Houston Texas	138 "76	1	7 148	18 483
Hartford Conn	138 036	2	4 500	11 5 0
Scranton Pa	137 "00	6	11 482	58 001
Grand Rapids Mich	137 634	2	1 898	3,3.6
Paterson N J	135 866	2	4 335	12 "3,
Youngstown Ohio	132,338	2	1 613	5,847
Totals	29 381 011	416	2 717 8.0	8 8.9 809

PHYSICIANS SERVING IN GENERAL DISPENSARIES

On the question as to how many physicians are serving full-time and how many part-time, there were 615 general dispensaries that answered, not including any

TABLE 4.—PHYSICIANS SERVING IN GENERAL DISPENSARIES

	Number of Full time Physicians	Average No Full time Physicians	Number of Part time Physicians	Average No Part time Physicians
459 outpatient departments reporting	1 088	2	7 730	14
157 independent dispensaries reporting	180	1	2 199	14
615 general dispensaries	1 "68	2	9 929	16

of the dispensaries run by the state or federal government. These 615 employ 1,268 full-time physicians, or an average of two for each dispensary, and 9,929 part-time, or an average of sixteen for each dispensary. The answers on this question are summarized in Table 4.

In answer to whether they have separate services for the different departments of medicine and surgery, 429, or 59 per cent., of those answering the question said that they have separate services, and 293, or 41 per cent., said that they have one undivided service for all kinds of cases.

TABLE 5.—TEACHING IN GENERAL DISPENSARIES

	Teach Medical Students		Post graduate Teaching		Interns		Nurse Training	
	No	%	No	%	No	%	No	%
378 outpatient departments	131	3,	84	22	271	72	316	84
1 independent dispensaries	34	61	11	20	11	20	31	5,
431 Totals	165	38	9,	22	282	6,	347	80

TEACHING IN GENERAL DISPENSARIES

Four hundred and thirty-four dispensaries are doing systematic, organized medical teaching. Their replies are summarized in Table 5.

Of the 637 hospitals approved by the Council for the training of interns, 418 or 66 per cent., have outpatient departments. The figures in detail are shown in Table 6.

TABLE 6.—OUTPATIENT SERVICE IN HOSPITALS APPROVED FOR INTERNSHIPS

	Number of Hospitals Approved	Number That Have Dispensary Service	Per Cent
1 General hospitals	503	338	67
2 State and other hospitals for the insane	28	6	21
3 Other special hospital	106	74	"0
Totals	637	418	66

SOURCE OF FINANCIAL SUPPORT

Reports on the source of financial support received from 651 of the general dispensaries show that 377, or 58 per cent. of those reporting, receive some financial support from patients, 223, or 34 per cent., from endowments, 224 receive gifts, thirty-one get county aid, ninety get city aid and sixty-three get state aid.

The outpatient departments of hospitals are more fortunate than independent dispensaries in having endowments and in getting contributions from patients. Thirty-seven per cent. of the outpatient departments reported endowments, as against 24 per cent. of the independent dispensaries, and 66 per cent. of the outpatient departments collect something from patients, as against 34 per cent. of the independent dispensaries. The majority of outpatient departments that reported

TABLE 7.—FINANCIAL SUPPORT OF GENERAL DISPENSARIES

	Outpatient Departments		Independent Dispensaries		Totals	
	No	%	No	%	No	%
Number reporting financial support	494		157		651	
Source of financial support						
Endowments	185	37	38	24	223	34
Patients	324	66	53	34	377	58
Gifts	154	31	68	44	222	34
County aid	20	4	11	7	31	5
City aid	4,	9	45	29	90	14
State aid	50	10	13	8	63	10
Federal aid	3	6	2	1	5	7

endowments probably meant that the hospital, not the outpatient department, as such, was endowed. In securing financial aid from city, state or federal government, the independent dispensaries run ahead of the outpatient departments. Further details regarding the sources of financial support will be found in Table 7.

SOCIAL WORKERS IN GENERAL DISPENSARIES

Social service workers are employed by 380 general dispensaries, which use 964 salaried and 1,171 volunteer workers, or a total of 2,135 Only thirty-nine said that they depend on volunteers entirely to do their social service

TABLE 8—SOCIAL WORKERS IN GENERAL DISPENSARIES

	No Dispensaries	No of Volunteer Workers	No Dispensaries	No of Salaried Workers	No Dispensaries	No of Full time Workers
278 outpatient departments	126	974		774		722
102 independent dispensaries	39	197	72	190	60	140
380 Totals	165	1 171		964		862

OBSERVATIONS

Some of the main facts that have been brought to light in connection with the survey are

1 There is a steady increase in the number of patients seeking treatment in general dispensaries

2 There has been an unprecedented increase since the war in the number of special clinics and dispensaries, such as those for tuberculosis, venereal disease, mental hygiene and child hygiene

3 There is great need for individualized study and treatment of dispensary patients, to counteract what seems to be a prevailing tendency to routinization

4 There is need of a closer bond between the outpatient service and the other service of hospitals, and this will be best met by having the hospital and the outpatient staffs identical and by having unified records

5 In the matter of finances there is an increasing tendency to charge nominal fees, thereby placing part of the cost of an institution on the patient

6 A general increase is noted in the use of social service workers to see that patients continue their treatment, and to investigate their social and financial status so as to prevent pauperizing

7 The difficulty of securing satisfactory data is increased by the inadequacy of clinical and office record systems in a large number of institutions

8 There is a great and increasing amount of educational work, especially the teaching of interns, medical students, graduates and pupil nurses

ACKNOWLEDGMENTS

The collecting of data here published, as well as the large mass of information being digested for publication and for reference, has been made possible through the splendid cooperation of superintendents and medical directors of individual institutions, as well as the organized health agencies, both voluntary and governmental, under whose auspices medical service is provided for ambulatory patients

Among the many that should be mentioned are the state, national and local health departments, and various national and state volunteer organizations, together with their branches and others

It is hoped that the statistics here presented, as well as those that are being prepared for later publication, will be of interest and service to all who are concerned with dispensaries

The amount of data, the degree of completeness and the accuracy obtained are indeed gratifying, and it is felt that a basis has been established for the comparison of data that may be obtained by future surveys, which it is confidently hoped and expected will show unprecedented progress in development of dispensaries and the improvement of their services to their respective communities

GENERAL DISPENSARIES OF THE UNITED STATES

SHOWING THE NUMBER OF PATIENTS RECEIVED AND THE NUMBER OF VISITS TO THE DISPENSARY BY PATIENTS DURING THE LAST FISCAL YEAR

Including outpatient departments of hospitals and independent dispensaries that give a general medical and surgical service

Independent dispensaries are marked (†), and *those not so marked* are the outpatient departments of hospitals

Other classifications indicated are (*), outpatient department of hospital that is approved for a general intern training, (**), outpatient department of hospital that is approved for a special intern training, (¶), dispensary that serves employees and community, (*), dispensary that serves employees and their families, (‡), school infirmary

ALABAMA

	Patients Last Year	Visits Last Year
Birmingham		
Birmingham Baptist Hospital 708 14 Tuscaloosa Ave	5 475	10 875
*Hillman Hospital Ave F and 20th St	12 384	49 803
Northside Infirmary 1508 7th Ave	800	1 500
Dothan		
Frazier Hospital S St Andrews St	605	1 492
Fairfield		
¶Employes Hospital of Tennessee Coal Iron and Railway Company	3 640	8 650
Mobile		
*City Hospital 156 N Broad St	6 543	24 308
Tuskegee Institute		
*John A Andrew Memorial Hospital	7 710	16 777
Totals	37 207	113 455

ARIZONA

	Patients Last Year	Visits Last Year
Bisbee		
*Copper Queen Hospital	25 938	27 910
Miami		
Miami Inspiration Hospital	29 021	37 918
Phoenix		
†Maricopa County Health Center	1 132	3 294
Totals	56 091	69 182

ARKANSAS

Fort Smith		
†Fort Smith Federated Welfare Assn Rogers Ave and 2d St	306	
Hot Springs		
Leo N Levi Memorial Hospital Prospect Ave and Quapaw St	5 025	40 962
Little Rock		
Logan H Roots Memorial City Hospital 604 E 2d St (Isaac Folsom Clinic)	2 239	16 195
Pettus Surgical Infirmary 110 112 W 9th St	265	
Pulaski County Hospital 26th and Jones Sts	1 810	1 975
St Luke s Hospital 1920 Schiller St	2 499	7 497
North Little Rock		
†Medical Clinic City Hall	(No data available)	
Pine Bluff		
†The Pine Bluff Clinic 5th and Maine Sts	(New)	
West Helena		
†Medical Clinic Court House	140	1 272
Totals	12 284	67 901

CALIFORNIA

Alameda		
†Alameda City Health Center 1512 Oak St	684	3 243
Bakersfield		
Kern County Hospital 3100 19th St	3 650	(No record)
Berkeley		
†Berkeley Dispensary and Health Center 830 University Ave	6 265	13 819
‡University of California Infirmary	5 005	41 113
Dorris		
Dorris Hospital 3d and Oregon Sts	1 040	2 250

	Patients Last Year	Visits Last Year
Fort Bragg		
Fort Bragg Hospital Inc Main and Fir Sts	1 500	14 500
Fresno		
*Fresno County Hospital Ventura Ave	3 900	4 000
Hobart Mills		
Hobart Hospital	859	2 462
Long Beach		
Seaside Hospital 14th St and Magnolia Ave	389	
Los Angeles		
*Boyle Ave Dispensary O P Dept White Memorial Hosp 304 Boyle Ave	43 510	49 330
**Children's Hospital 4616 Sunset Blvd	2 947	10 899
†Graves Memorial Dispensary 737 N Broadway	14 120	42 422
McCloud		
McCloud Hospital 4 Sisson Road	156	3 297
Oakland		
Baby Hospital Assn 5100 Dover St	3 238	14 538
Fabiola Hospital Assn Moss Ave and Broadway	859	1 301
†Public Health Center of Alameda County 3105 Grove St	6 900	38 940
Ontario		
†Ontario Health Center Sultana and Grove Sts	322	
Pasadena		
†Pasadena Dispensary 38 Congress St	(No record)	9 001
Portola		
†Western Pacific Railway Hospital	720	3 640
Richmond		
†Richmond Health Center 23 9th St	(New)	
Riverside		
†Riverside Clinic 317 Loring Bldg	498	1 223
Riverside County Hospital Magnolia Ave and Arlington St		
Sacramento		
Sacramento City Emergency Hospital 6th and H Sts	6 [illegible] 8	7 091
Sacramento Hospital Stockton Blvd	1 053	4 492
San Diego		
San Diego County Dispensary O P Dept San Diego County General Hospital C and Front Sts	9 248	10 199
San Francisco		
†Canon Kip Memorial Clinic 246 2d St	1 240	5 004
*Children's Hospital 3700 California St	3 041	12 412
Chinese Hospital Clinic 40 Trenton St	425	575
†College of Physicians and Surgeons 344 14th St	3 645	13 862
Franklin Hospital 14th and Noe Sts	9 330	17 749
French Hospital Geary St and 5th Ave	3 224	6 500
Mary's Help Hospital Clinic 145 Guerrero St	2 394	8 064
*Mount Zion Hospital 2300 Post St	2 262	22 917
†National Homeopathic Clinic 143 Haight St	360	1 656
San Francisco Polyclinic and Post Graduate College Hospital 1535 Jackson St	6 234	7 430
*Stanford University School of Medicine Dispensary O P Dept Lane Hospital 2398 Sacramento St	11 016	78 487
*St Luke's Hospital 24th and Valencia Sts	913	4 205
†Third Street Clinic 89 3d St	1 299	3 560
*University of California Hospital Parnassus and 2d Aves	17 729	85 684
San Jose		
Columbia Hospital Inc E Santa Clara St at 19th	220	650
†Good Cheer Club Clinic Room 15 Porter Bldg 2d and Santa Clara Sts	4 220	13 704
Santa Clara County Hospital	1 123	4 446
San Luis Obispo		
†San Luis Obispo Co Health Center Garden St	(No data available)	
San Mateo		
Mills Memorial Hosp	250	
San Pedro		
†San Pedro Emergency Hospital 293 6th St	1 508	2 780
Santa Ana		
†Social Service Dept of Orange County 111 F 3d St		
Santa Barbara		
*College Hospital Dispensary 3d and Bath Sts	989	2 883
Scotia		
Scotia Hospital Assn Inc	845	3 500
Stockton		
†Stockton City Clinic 29 S Sutter St	607	1 483
Sugar Pine		
*Sugar Pine Hospital	475	800
Susanville		
Riverside Hospital Riverside Drive	385	750
Veterans Home		
Veterans Home of California Hospital	6 [illegible] 5	14 511
Visalia		
†Tulare County Health Center W Main St	(New)	
West Orange		
Orange County Hospital	806	1 216
Westwood		
*Westwood Hospital 500 Elm St	525	1 300
Totals	193 920	599 151

COLORADO

Canon City		
Holmes Hospital 428 Greenwood St	715	1 114
Denver		
†University of Colorado School of Medicine Clinic 1307 Welton St	7 439	25 713
Fort Collins		
†Red Cross Clinic	169	221
Greeley		
†Weld County Clinic Greeley Hospital	402	605
Pueblo		
Minnequa Hospital of the Colorado Fuel and Iron Co Minnequa and Lake Aves	97 433	117 850
Salida		
Red Cross Hospital 140 W 3d St	1 000	2 000
Totals	106 454	148 003

CONNECTICUT

Bridgeport		
†City Dispensary Madison and Washington Aves	4 746	18 386
Columbus Hospital Inc 564 Worthington Ave	1 600	4 800
Emergency Hospital and Dispensary	6 442	28 570
Danielson		
†Civic Federation Health Station Main St	391	1 638
Greenwich		
Greenwich Hospital Assn Lake Ave	450	1 245
Hartford		
†City Dispensary 550 Main St	(No record)	1 481
†Hartford Dispensary 56 Winthrop St	4 500	10 039
New Haven		
*Grace Hospital Dispensary 1423 Chapel St	2 562	7 621
†Health Center City of New Haven 578 Grand Ave	3 700	5 514
*New Haven Dispensary O P Dept New Haven Hospital 321 Congress Ave	(No record)	43 745
North Grosvenordale		
Emergency Hospital (North Grosvenordale Dispensary)		
Putnam		
Day Kimball Hospital 77 Pomfret St	495	798
Sharon		
Sharon Hospital Assn, Inc	179	895
South Norwalk		
†The Norwalk Dispensary Assn 6 Pine St	(No data available)	
Stamford		
Stamford Hospital Hubbards Hill	172	228
Waterbury		
†Waterbury Dispensary 31 Field St	5 772	11739
Totals	32 240	136 719

DELAWARE

Lewes		
Beebe Hospital of Lewes Inc	(New)	
Marshallton		
Edgewood Sanitarium	353	2 237
Wilmington		
*Delaware Hospital 14th and Washington Sts	7 063	30 612
*Homeopathic Hospital Assn 1501 Van Buren St	565	1 898
Physicians and Surgeons Hospital 802 Adams St	301	824
Totals	8 282	35 571

DISTRICT OF COLUMBIA

Washington		
*Central Dispensary and Emergency Hospital 1711 New York Ave N W	1 627	5 959
**Children's Hospital for the District of Columbia 13th and W Sts	1 220	4 378
*Columbia Hospital for Women and Lying In Asylum 25th and I Sts N W	997	2 371
†Dispensary of the 19th St Baptist Church		
*Eastern Dispensary and Casualty Hospital 408 Massachusetts Ave N E	681	
*Garfield Memorial Hospital Florida Ave Opp 10th St N W		
*Georgetown University Hospital N and 39th Sts N W	8 350	16 153
*Providence Hospital 2d and D Sts S E	3 840	13 277
*Sibley Memorial Hospital 1140 N Capitol St N W	1 000	2 967
Washington Sanitarium and Dispensary 1252 6th St S W	4 000	12 000
*George Washington University Hospital 1339 H St N W	1 625	3 593
†Woman's Clinic Dispensary 1237 T St N W		
Totals	23 351	60 700

FLORIDA

Jacksonville		
†City Free Dispensary Orange and Main Sts	10 363	
New Smyrna		
Forster Sanatorium	1 850	2 042
Tallahassee		
Florida Agricultural and Mechanical College Sanatorium School Grounds	4 000	8 184
Totals	16 213	10 226

GEORGIA

Atlanta		
*J J Gray Clinic O P Dept Grady Hospital 50 Armstrong St	6 476	37 861
Augusta		
Augusta City Dispensary O P Dept University Hospital University Pl		18 445
Macon		
*Macon Hospital 820 Pine St	1 156	2 340

	Patients Last Year	Visits Last Year
Rome		
Harbin Hospital 100 3d St	1 077	2 200
Sandersville		
Rawlings Sanitarium	2 400	9 036
Totals	11 109	69 882

IDAHO

Lewiston		
White Hospital (Lewiston Hospital Assn) 1504 Main St	912	2 751
Totals	912	2 751

ILLINOIS

Anna		
Hale Sanitarium 604 S Main St	747	1 254
Bloomington		
St Joseph's Hospital Jackson St and Morris Ave	1 804	27 650
Chicago		
Bethany Sanitarium and Hospital 3415 W Van Buren St	1 040	4 840
Burnside Hospital 9435 Langley Ave	1 400	1 750
†Central Free Dispensary 1744 W Harrison St	17 621	99 594
*Chicago Policlinic and Hospital 221 W Chicago Ave	2 700	8 500
**Children's Memorial Hospital Dispensary 735 Fullerton Ave	14 390	27 994
†Children's South Side Free Dispensary 705 W 47th St	3 742	20 732
*Cook County Hospital Clinic Harrison and Wood Sts [Outpatients are referred to other institutions for treatment]	13 819	13 819
**Dispensary of the Chicago Lying In Hospital conducted at the Provident Hospital 36th and Dearborn Sts	1 131	(No record)
*Grant Hospital 551 Grant Pl	2 150	6 455
†Guardian Angel Dispensary 46th and Gross Ave	1 444	2 139
†Hahnemann Free Dispensary 2815 Cottage Grove Ave	2 980	10 203
*Illinois Central Hospital 5744 Stony Island Ave	1 890	5 600
†Illinois Post Graduate Medical School Dispensary 1844 W Harrison St	7 791	14 971
Iroquois Memorial Dispensary O P Dept Iroquois Memorial Hospital 23 N Market St	7 701	10 809
*Elizabeth Marcy Center Dispensary O P Dept Wesley Hospital 1335 Newberry Ave	3 461	
**Maxwell Street Dispensary of the Chicago Lying In Hospital 1336 Newberry Ave	1 027	17 063
*Mercy Clinic O P Dept Mercy Hospital 2526 Calumet Ave	8 947	9 560
*Mount Sinai Hospital 1519 S California Ave	639	1 157
**North Chicago Hosp tal 2551 N Clark St	1 875	45 625
†Northwestern University Dispensary 2431 S D arborn St	19 557	37 691
†Olivet Institute Dispensary 1500 Cleveland Ave	853	4 585
Peoples Hospital 203 W 22d St	1 200	7 000
*Post Graduate Hospital 2400 S Dearborn St	20 279	20 279
*Provident Hospital 16 W 36th St	1 131	3 390
*Michael Reese Dispensary O P Dept Michael Reese Hospital 1012 Maxwell St	4 719	70 527
**Stock Yards Dispensary of the Chicago Lying In Hospital 734 W 47th St	179	2 399
†St Elizabeth's Dispensary 1360 N Ashland Ave	-	-
*St Joseph's Hospital 2100 Burling St	1 611	4 662
*St Luke's Hospital 1439 Michigan Ave	1 893	(No record)
*Mary Thompson Hospital of Chicago for Women and Children 1712 W Adams St	3 830	9 943
*University Hospital 432 S Lincoln St	825	4 488
†University of Illinois College of Medicine Clinic 508 S Honore St	5 540	23 983
*Washington Boulevard Hospital 2449 Washington Blvd	2 118	8 472
Decatur		
Decatur and Macon Co Hospital Clinics	286	3 845
Elgin		
†Elgin Community Dispensary 12 S Spring St	445	1 118
Evanston		
*Evanston Hospital 2650 Ridge Ave	1 766	4 702
*St Francis Hospital 355 Ridge Ave	1 283	919
La Grange		
La Grange Sanitarium and Hospital 87 S 5th St	480	2 500
Metropolis		
Walbright Hospital	1 000	5 000
Peoria		
†Public Health Nursing Assn Dispensary 206 City Hall	2 746	17 998
Rockford		
Rockford Hospital 507 Chestnut St	992	(No data available)
†Rockford Dispensary		
†Rockford Municipal Dispensary 124 S Wyman St	675	2 452
Rock Island		
St Anthony's Hospital 767 30th St		
Springfield		
St John's Hospital 8th and Mason Sts	1 219	7 740
Totals	172 572	573 772

INDIANA

Evansville		
Hayden Hospital 20 Walnut St	912	
Gary		
¶*Gary Hospital of the Illinois Steel Company Broadway and Calumet River	13 067	38 894
Indianapolis		
†Indianapolis City Dispensary Market and Senate Sts		
*Indianapolis City Hospital 10th and Locke Sts	(New)	
Marion		
†Public Health Clinic 5th and Adams Sts		
Muncie		
†Muncie Public Health Clinic 207 N High St	527	3 268
Oaklandon		
Sunnyside Sanatorium	661	1 385
South Bend		
Children's Dispensary and Hospital Assn 1040 W Division St	396	2 021
Terre Haute		
†Rose Dispensary 7th and Cherry Sts	350	2 135
Union City		
Union City Hospital		
Totals	15 913	47 703

IOWA

Ames		
†Iowa State College Hospital		10 187
Creston		
Creston Community Hospital 402 4 N Oak St	957	
Des Moines		
†Des Moines Health Center 1st and Locust Sts	5 027	14 258
Iowa City		
*University Hospital Iowa Ave	5 808	7 302
Mason City		
†North Iowa Clinic Central Trust Bldg		
Park Hospital Clinic 102 N Washington St	3 000	9 433
Nevada		
Iowa Sanitarium and Hospital	414	(No record)
Oskaloosa		
Mercy Hospital	1 175	2 450
Ottumwa		
Ottumwa Hospital	288	43[illegible]
Sioux City		
†Dispensary Organized Welfare Bureau 209 3d St	786	1 930
Waterloo		
†Blackhawk Co Public Health Assn		
Totals	17 45[illegible]	45 99[illegible]

KANSAS

Halsted		
**Halstead Hospital	2 481	6 943
Junction City		
†Geary County Health Dept Courthouse	1 073	11 8[illegible]
Lawrence		
†Department of Public Health City Hall	1 459	3 0[illegible]
Lebanon		
Lebanon Hospital	397	663
Liberal		
Liberal Hospital	(1921 records lost)	
Newton		
Axtell Hospital 204 E Broadway	17 000	18 030
Pratt		
†Pratt Clinic		
Rosedale		
*Bell Memorial Hospital College and Broad Sts	4 832	21 308
Sabetha		
St Anthony-Murdock Memorial Hospital 14th St	145	(No complete data)
Topeka		
†Municipal Clinics 3d Floor City Bldg	2 019	4 0[illegible]
Wichita		
†City of Wichita Kansas Clinic City Hall	2 131	5 025
Totals	29 537	60 221

KENTUCKY

Berea		
Berea College Hospital	(No data available)	
Fleming		
†Fleming Hospital		
Fulton		
†Health Dept. Dispensary	(New)	
Greenville		
†Muhlenberg County Health Dept Court House	1 200	2 700
Jackson		
Bach Hospital Main St	713	4 327
Lebanon		
Elizabeth's Hospital Main and Harrison Sts	320	1 360
Lexington		
†Public Health Nursing Assn 227 N Upper St	3,217	6 659
†University of Kentucky Dispensary of Dept of Hygiene and Public Health	3 737	6,276
Louisville		
Children's Free Hospital 226 E Chestnut St	945	
*Louisville City Hospital Preston and Chestnut Sts	11 673	48 192
**Pope Sanitarium, 115 W Chestnut St	470	35 500
Murray		
William Mason Memorial Hospital 409 Poplar St	1 306	3 970
Paducah		
¶**Illinois Central Railway Hospital 1423 Broadway	3 174	3 174
†McCracken County Red Cross Health Center 531 Broadway	900	1 237
Totals	27 855	113 575

LOUISIANA

	Patients Last Year	Visits Last Year
Alexandria		
Baptist Hospital 427 3d St	519	
Bogalusa		
Elizabeth Sullivan Memorial Hospital	(No record)	18 218
Fisher		
West Louisiana Sanitarium	3 000	18 000
Monroe		
St Francis Sanitarium L B Faulk Free Clinic 318 Wood St	882	1 575
New Orleans		
*Charity Hospital of Louisiana Tulane and Howard Sts	33 851	113 183
Flint Goodridge Hospital 1466 Canal St	1 981	18 563
†*Illinois Central Railway Hospital Magnolia and Lafayette Sts	708	3 790
New Orleans Hospital and Dispensary for Women and Children 1823 Annunciation St	2 653	4 174
Presbyterian Hospital of New Orleans 701 39 Carondelet St	11 986	
*Touro Infirmary and Hebrew Benevolent Assn 3616 Prytania St	16 845	78 097
Shreveport		
*Shreveport Charity Hospital 1240 Texas St	(New)	
*T L Shumpert Memorial Sanitarium 941 Margaret Pl	6 100	24 988
Totals	78 075	281 068

MAINE

Bath		
†Bath Health Center Custom House Bldg	67	897
Biddeford		
Trull Hospital	1 000	
Boothbay Harbor		
St Andrews Hospital	150	350
Dexter		
Plummer Memorial Hospital	150	
Old Town		
†Central Penobscot Public Health Assn	1 103	1 108
Portland		
Children's Hospital 68 High St	1 230	11 745
Presque Isle		
Presque Isle General Hospital 37 2d St	239	358
Rockland		
Knox County General Hospital 2 Maple St	697	
Totals	4 641	14 508

MARYLAND

Annapolis		
Annapolis Emergency Hospital Franklin and Cathedral Sts	749	1 717
Baltimore		
†Baltimore General Dispensary 100 N Paca St	6 731	10 220
†Christ Church Dispensary 602 S Bond St	1 200	12 019
†City Medical Agency Dispensary Eastern District 1300 E Baltimore St	(Included in Report of Southern Dist)	
†City Medical Agency Dispensary Northeastern District 1224 E Monument St	(Included in Report of Southern Dist)	
†City Medical Agency Dispensary Northwestern District 2242 Pennsylvania Ave	(Included in Report of Southern Dist)	
†City Medical Agency Dispensary Southern District 1418 Light St	5 163	11 755
Dispensary of Volunteers of America Hospital 418 W Lexington St	4 049	10 245
Robert Cerrett Hospital for Children 27 N Carey St	1 660	6 787
*Hebrew Hospital and Asylum, Monument St and Rutland Ave	3 370	16 593
**Hospital for Women of Maryland Lafayette Ave and John St	569	569
*Johns Hopkins Hospital Broadway and Monument St	31 787	142 532
Howard A Kelly Hospital 1418 Putaw 11	8 030	11 775
Harriet Lane Home for Invalid Children of the Johns Hopkins Hospital	3 448	13 909
Locust Point Dispensary F Fort Ave and Haubert St	4 000	4 423
*Maryland General Hospital Linden Ave and Madison St	2 998	3 641
†Medical and Surgical Dispensary 1301 Light St		
*Mercy Hospital Saratoga and Calvert Sts	5 739	
[Conducted by Medical Dept Univ of Maryland and the State Health Dept]		
Provident Hospital and Free Dispensary 413 to W Biddle St	1 023	1 410
*South Baltimore General Hospital 1211 29 Light St	12 897	17 622
*St Agnes Hospital Wilkens Ave	106	1 220
*St Joseph's Hospital Caroline and Hoffman Sts	4 946	7 008
*University Hospital Lombard and Green Sts	13 071	52 637
Cambridge		
Cambridge Maryland Hospital	1 18	
Hagerstown		
†Washington County Public Health Demonstration 12 E Washington St	360	1 649
Havre de Grace		
Havre de Grace Hospital Union Ave and Revolution	94	240
Totals	111 [illegible]	327 495

MASSACHUSETTS

Boston		
†Berkeley Infirmary Dispensary 44 Dwight St	2 066	3 696
*Boston City Hospital 818 Harrison Ave (See also Haymarket Square and East Boston Relief Stations)	32 301	164 147
**Boston Dispensary and Hospital for Children 25 Bennet St	40 000	152 408
**Boston Floating Hospital 40 Wigglesworth St Rox	608	5 042
**Boston Lying In Hospital 24 McLean St	2 808	8 062
*Carney Hospital 140 Dorchester St S B	4 222	33 980
**Children's Hospital 300 Longwood Ave	11 936	47 378
†Dispensary for Women 633 Massachusetts Ave	335	5 214
*Dispensary of the New England Hospital for Women and Children Columbus Ave and Dimock St Rox	1 063	5 748
*East Boston Relief Station O P Dept Boston City Hospital 14 Porter St	10 312	28 643
*Haymarket Square Relief Station O P Dept Boston City Hospital Haymarket Square	22 830	22 330
**Collis P Huntington Memorial Hospital 695 Huntington Ave	1 420	6 820
†Jewish Maternity Clinic Assn 18 Allen St		
†The Little House Dispensary 73 A St S B	(New)	
†Lincoln House Dispensary 80 Emerald St	3 171	5 412
Long Island Hospital Long Island	1 360	
*Massachusetts General Hospital Fruit St	25 302	165 676
*Massachusetts Homeopathic Dispensary O P Dept Massachusetts Homeopathic Hospital 750 Harrison St	13 597	58 209
†Maverick Dispensary 18 Chelsea St E B	2 269	15 183
†Medical Dispensary and Pharmacy (Salvation Army) 87 Vernon St Rox	3 650	9 894
Medical Mission Dispensary 36 Hull St		
*Peter Bent Brigham Hospital 721 Huntington Ave	7 885	49 545
Plymouth Hospital Dispensary 12 E Springfield St		
South End Dispensary and Hospital 2a Milford St		2 000
St Elizabeth's Hospital 726 Cambridge St Brighton	3 108	5 063
†Union Rescue Mission 13 Dover St		
†University Dispensary 415 Newbury St		
Brockton		
*Brockton Hospital 680 Centre St	1 290	2 850
Brookline		
†Community Health Center of the Brookline Friendly Society 10 Walter Ave	1 324	12 641
**Free Hospital for Women 365 Pond Ave	1 450	5 506
Cambridge		
Cambridge City Hospital 1493 Cambridge St	1 540	6 000
*Cambridge Hospital 330 Mount Auburn St	1 490	6 105
Cambridge Relief Hospital 199 Prospect St	5 500	50 000
Middlesex Hospital 85 Otis St	1 296	3 519
Chelsea		
*Chelsea Memorial Hospital 100 Bellingham St	1 645	
†Chelsea Relief Dispensary 4 Tremont St		
Clinton		
Clinton Hospital Assn Highland St	412	676
Concord Junction		
Massachusetts Reformatory Hospital	2 748	
Fairhaven		
Fairhaven Hospital 20 Fort St		
Fall River		
Bay View Hospital Woodman and Bay Sts	218	426
†Board of Health Dispensary	2 884	9 014
†City Dispensary Overseers of the Poor City Hall	1 803	7 571
*Fall River City Hospital 228 Stanley St	5 757	14 284
St Anne's Hospital 49 Middle St	388	388
†Truesdale Clinic 151 Rock St		
*Union Hospital 538 Prospect St	2 039	10 930
Fitchburg		
*Burbank Hospital Hospital Rd	600	1,000
Framingham		
Framingham Hospital Evergreen St	530	1 074
Gloucester		
†Public Health Dispensary 132 Main St	699	2 563
Lawrence		
*Lawrence General Hospital 60 Prospect St	1 323	4 839
Lowell		
Lowell City Dispensary O P Dept City Hospital City Hall	2 768	
*Lowell Corporation Hospital Merrimack and Tawtucket Sts	4 762	17 659
*St John's Hospital Bartlett and Fayette Sts	2 171	10 452
Ludlow		
Lynn Hospital 212 Boston St	4 432	13 091
Melrose		
Melrose Hospital Assn 580 Lebanon St	410	775
New Bedford		
*New Bedford City Mission Dispensary 755 1st St	1 979	
*St Luke's Hospital Page and Allen Sts	3 247	7 551
Union Hospital and Dispensary 1076 Pleasant St		

	Patients Last Year	Visits Last Year
Newburyport		
Anna Jaques Hospital	631	679
Newton		
*Newton Hospital 2014 Washington St Lower Falls	320	3 088
Northampton		
Cooley Dickinson Hospital Locust St	241	1 837
Pittsfield		
Hillcrest Hospital 798 North St	2 910	5 703
*House of Mercy Hospital 741 North St	3 179	5 962
Plymouth		
Jordan Hospital Sandwich St	309	1 821
Quincy		
†Fore River Hospital 97 E Howard St		
Salem		
*Salem Hospital 81 Highland Ave	1 450	5 429
Somerville		
Somerville Hospital 30 Crocker St		
Taunton		
Morton Hospital 88 Washington St	1 504	
Waltham		
*Waltham Hospital Hope Ave	585	1 203
Winchester		
†Winchester Public Health Center 9 Mount Vernon St	754	2 439
Worcester		
Belmont Hospital Belmont St	299	
*City Hospital 162 Chandler St	6 962	31 342
†Franco American Dispensary 19 Portland St		
Washburn Free Dispensary O P Dept Memorial Hospital 14 Oak Ave	5 164	13 798
Totals	268 775	1 075 225

MICHIGAN

Ann Arbor		
University Hospital Catherine St	18 012	27 398
Battle Creek		
Battle Creek Sanitarium Clinic N Washington Ave	4 661	
Calumet		
Calumet and Hecla Hospital	(No data available)	
Detroit		
Children's Hospital of Michigan 5224 St Antoine St	4 599	19 936
Grace Hospital 4160 John R St	4 192	15 287
Harper Hospital 3800 John R St	26 231	53 319
Michigan Mutual Hospital		3 859
Receiving Hospital St Antoine and Macomb Sts	9 084	12 235
†Red Cross Clinic 503 Palmer Bldg	(No record)	2 034
Samaritan Hospital 2200 W Grand Blvd	467	742
St Mary's Hospital 1420 St Antoine St	6 624	27 917
Woman's Hospital and Infants Home 443 Forest Ave E	3 219	6 273
Flint		
†Health Center Board of Health Rivard Blvd 607 Beach St	12 424	24 058
Grand Rapids		
Butterworth Hospital Michigan St and Bostwick Ave	1 010	1 708
St Mary's Hospital Free Clinic Cherry and Lafayette Ave	888	1 648
Grosse Pointe		
†Grosse Pointe Board of Health Rivard Blvd and Jefferson Ave	559	614
Hancock		
†Houghton County Dispensary 100 Quincy St	247	1 059
Highland Park		
Highland Park General Hospital Glendale and Lincoln Aves	1 960	2 394
Iron Mountain		
Westerlin Hospital	1 021	4 015
Iron River		
Mercy Hospital	1 300	5 000
Jackson		
W A Foote Memorial Hospital East Ave	917	2 792
Kalamazoo		
Baldwin Sanitarium 500 Monroe St	8 075	
†Dept of Public Health and Welfare 122 E Water St	1 189	3 970
†Public Health Clinic Board of Health	386	3 192
Lake Linden		
Lake Superior General Hospital Dispensary Calumet and Beasley Sts	(No data available)	
Lansing		
†Health Center 112 W Allegan St	6 508	7 3 0
Menominee		
St Joseph Hospital 802 Ogden Ave	1 013	
Mohawk		
‖Mohawk Mine Hospital 100 Stanton Ave	246	14 90
Painesdale		
Copper Range Medical Service Copper Range Hospital	11 907	30 984
Petoskey		
Petoskey Hospital 109 W Lake St	366	1 180
Pontiac		
†Dept of Public Health 97 Perry St	362	1 207
Totals	1 21	01 931

MINNESOTA

Chisholm		
Rood Hospital 101 F Chestnut St	591	11 809
Coleraine		
†Coleraine Hospital Morrison Ave	130	
Crosby		
‖Miners Hospital	252	1 475
Duluth		
†Duluth Free Dispensary 407 W Superior St	596	812
Morgan Park Hospital Morgan Park	3 200	3 64
St Mary's Hospital 37th St and 5th Ave E	6 0 0	8 199
Ely		
Shipman Hospital	4 497	7 773
Eveleth		
More Hospital	8 774	21 82
Hibbing		
Rood Hospital 2009 4th Ave	3 1 1	18 7 4
Minneapolis		
Maternity Hospital 2215 Western Ave	(No record)	1 930
Minneapolis General Hospital 5th St Bet 6th and 7th Aves	3 510	20 997
University Hospital Union St and Washington Ave	1 647	69 133
†Wells Memorial House Dispensary		
Nopeming		
Nopeming Sanatorium	900	2 0 0
Princeton		
Northwestern Hospital	1 191	
Proctor		
Missabe Hospital	4 900	9 500
St Paul		
†St Paul Dispensary 204 W 9th St	6 260	21 804
Totals	60 150	23 791

MISSISSIPPI

Hattiesburg		
New Methodist Hospital		
Laurel		
South Mississippi State Charity Hospital N Laurel St	3 984	10 022
Meridian		
Matty Hersee Hospital 2310 Poplar Springs Rd	3 305	
Natchez		
Natchez Hospital	8 030	(No Record)
Vicksburg		
Vicksburg Infirmary 1022 Harrison St	800	
Totals	16 119	10 02

MISSOURI

Columbia		
Boone County General Hospital	(New)	
Parker Memorial Hospital University of Missouri	2 516	7 318
Joplin		
†Joplin Free Clinic City Hall 205 Joplin Ave	4 0 2	7 331
Kansas City		
†Alfred Benjamin Dispensary 1000 Admiral Blvd	4 671	9 916
Children's Mercy Hospital Independence and Woodland Aves	8 017	21 90
†Emergency Hospital City Hall Annex	12 000	(No Record)
†Helping Hand Institute 523 Grand Ave	1 436	4 47
Kansas City General Hospital 24th and Cherry Sts	5 016	22 608
Kansas City General Hospital Colored Division 22d and Cherry Sts	2 08	2 663
Research Hospital 2300 Holmes St	1 421	4 025
St Joseph's Hospital Linwood and Prospect Sts	120	400
†Thos H Swope Settlement Clinic 1608 Campbell St	2 142	11 050
Union Station Hospital Union Station	1 137	1 812
Poplar Bluff		
Cadwell Hospital	62	1 3 4
St Louis		
Alexian Bros Hospital 3933 S Broadway	3 674	21 87
Barnes Hospital 600 S Kingshighway	16 442	124 311
†First Aid Station 110 S 12th St	2 065	
†Holy Cross Dispensary 2500 N 12th St	2 122	11 3 6
Jewish Hospital 5415 Delmar Blvd	5 614	26 430
St John's Hospital Dispensary 312 N 3d St	3 600	21 733
St Louis Baptist Hospital 912 N Carrison Ave		
St Louis Children's Hospital 500 S Kings highway	16 494	126 964
St Louis City Hospital Dispensary 1605 S 14th St	20 099	6 40
St Louis Mullanphy Hospital Montgomery and Bacon Sts	2 685	14 801
†St Louis Obstetrical Dispensary 1235 N Grand Ave	22	804
†St Louis University Dispensary 1402 S Grand Ave	2 1 0	11 888
St Mary's Infirmary 1736 Papin St	2 1 2	11 584
Totals	170 973	533 482

MONTANA

Billings		
†Health Dept Yellowstone County Babcock Bldg	817	1 788
Butte		
Murray Hospital 57 W Quartz St	13 356	28 044
St James Hospital Idaho and Silver Sts	2 062	7 588
Great Falls		
†Cascade County Health Dept Stanton Bank Bldg Rm 80	1 030	1 463
Thompson Falls		
St Luke's Hospital	250	1 050
Totals	17 535	39 933

NEBRASKA

	Patients Last Year	Visits Last Year
David City		
David City Hospital		
Hastings		
Nebraska Sanitarium 315 F High St	313	
Lincoln		
Shoemaker's Private Hospital 1117 L St	82	440
Norfolk		
†Free General and special Clinic Vergus Sanitorium		
Omaha		
†Creighton Dispensary 306 N 14th St	7 010	21 448
Creighton Memorial St Joseph's Hospital 10th and Castellar Sts	310	821
†The Solar Sanitarium 1818 Douglas St	5 806	25 962
University of Nebraska Dispensary O P Dept University Hospital 42d and Dewey Ave	3 000	20 130
Pawnee City		
Pawnee County Hospital	309	(No Record)
Totals	17 010	68 801

NEVADA

Goldfield		
Association Hospital 41 N Columbia St	188	319
Mason		
Mason Hospital	120	
Tonopah		
†Tonopah Mines Hospital 90 South St	6 301	16 896
Totals	6 609	17 215

NEW HAMPSHIRE

Hanover		
Mary Hitchcock Memorial Hospital	491	835
Keene		
Elliot Community Hospital 305 Main St	209	475
Whitefield		
Morrison Hospital	201	934
Totals	861	2 244

NEW JERSEY

Atlantic City		
Atlantic City Hospital 23 S Ohio St	6 462	10 106
The Waggoner Private Hospital Clinic		
Bayonne		
Bayonne Hospital and Dispensary 12 E 30th St	3 217	12 234
Camden		
Cooper Hospital 6th and Stevens Sts	8 385	24 069
Homeopathic Hospital Dispensary 430 Stevens St	9 129	12 112
West Jersey Homeopathic Hospital Mt Ephriam and Atlantic Ave	8 603	21 249
Elizabeth		
Alexian Bros Hospital 4th and Jersey Sts	1 860	
Elizabeth General Hospital Dispensary E Jersey and Reid Sts	3 449	9 036
St Elizabeth's Hospital 204 S Broad St	1 019	1 825
Englewood		
Englewood Hospital Assn Child Hygiene Dept	171	1 861
Franklin		
Franklin Hospital	2 000	9 00
Hackensack		
Hackensack Hospital Hospital Ave	1 063	1 822
†Health Center Clinic 50 Hudson St	1 344	2 171
Jersey City		
Christ Hospital 146 Palisade Ave	3 428	4 432
Greenville Hospital in Jersey City 1825 Boulevard St	125	198
Jersey City Hospital Baldwin Ave	14 476	23 663
St Francis Hospital 239 Hamilton Pl	3 994	21 613
Long Branch		
Monmouth Memorial Hospital (Wimpfheimer Dispensary)	3 752	8 941
Millville		
Millville Hospital N High St	419	
Montclair		
Mountainside Hospital	4 190	4 831
Morristown		
Morristown Memorial Hospital 66 Morris St	6 070	20 025
Newark		
The Babies Hospital 437 High St	3 838	3 838
City Dispensary O P Dept City Hospital Lane and Williams Sts	13 687	50 785
Hospital for Women and Children Central Ave and S 10th St	2 109	8 776
Hospital of St Barnabas 683 High St	2 249	7 561
St James Hospital Dispensary Elm and Jefferson Sts	578	1 088
St Michael's Hospital Dispensary High St and Central Ave	3 437	28 906
New Brunswick		
Middlesex General Hospital Somerset Ave	(New)	
St Peter's General Hospital Somerset and Hardenberg Sts	1 327	3 220
Orange		
Orange Memorial Hospital 188 S Essex Ave	3 140	10 941
Passaic		
†Free Dispensary Municipal Bldg	418	
Passaic General Hospital Lafayette Ave	2 264	3 498
St. Mary's Hospital Pennington Ave	820	1 800
Paterson		
Nathan and Miriam Barnert Hospital 30th St and Broadway	1 919	5 977
Paterson General Hospital Market St	2 416	6 208
Plainfield		
Muhlenberg Hospital Park Ave and Randolph Rd	2 300	6 319
Princeton		
†Princeton University Dispensary Nassau St	1 594	11 994
Thorofare		
Sanitarium Assn of Philadelphia (open July and August)	201	244
Trenton		
†City Dispensary Municipal Bldg E State St	1 909	6 869
Mckinley Hospital	2 430	3 999
Mercer Hospital Belleview Ave	960	3 383
St Francis Hospital Hamilton Ave and Chambers St	5 359	9 789
Weehawken		
North Hudson Hospital Assn Park Ave		1 608
Totals	134 856	316 981

NEW MEXICO

Gardiner		
St Louis Rocky Mountain and Pacific Railroad Co Hospital	1 500	
Total	1 500	

NEW YORK

Albany		
Albany Hospital Dispensary New Scotland Ave	432	3 115
Anthony N Brady Maternity Home 30 N Main St	185	325
Homeopathic Hospital Dispensary 159 N Pearl St	1 048	4 157
South End Dispensary of the Albany Hospital 2 Ash Grove	1 775	9 009
St Peter's Hospital 879 Broadway	1 253	4 174
Auburn		
†Union Neighborhood House Health Center 17 Wall St	1 000	2 278
Binghamton		
Broome County Humane Society Free Dispensary 71 73 Collier St	2,342	4 684
Bronxville		
Lawrence Hospital Dispensary Pondfield Rd	284	533
Brooklyn		
†Bay Ridge Clinic (Included in Report 5208 4th Ave Health Dept N Y C)		
†Bedford Clinic 420 (Included in Report Herkimer St Health Dept N Y C)		
Beth Moses Hospital 404 Hart St	(New)	
†Bradford St Dispensary 109 Bradford St		
†Brooklyn City Dispensary 11 Tillary St	927	3,892
†Brooklyn Eastern District Homeopathic Dispensary 194 S 3d St	2,451	5 899
Brooklyn Hospital Dispensary 121 Dekalb Ave	19 563	81,431
Brooklyn Samaritan Hospital 608 4th Ave	1 726	3 137
†Brownsville Clinic 64 (Included in Report Pennsylvania Ave Health Dept N Y C)		
Brownsville and East New York Hospital Dispensary Rockaway Pkway and Ave A		
†Bushwick and East Brooklyn Dispensary 1097 Myrtle Ave	3 727	8 149
Coney Island Hospital Ocean Pkway and Ave Z	1 964	3 745
Cumberland Street Hospital Dispensary 109 Cumberland St	5 848	13 333
†Day Camp Rutherford Clinic Ft of Broadway (Included in Report Health Dept N Y C)		
†Dietz Memorial Clinic of the Italian Baptist Church 18 Jackson St	408	984
Dispensary of the Jewish Hospital of Brooklyn Cor Classon and St Mark's Aves	20 132	21 140
†Eastern District Clinic (Included in Report 306 S 5th St Health Dept N Y C)		
Greenpoint Hospital Kingsland Ave and Bullion St	4 715	13 552
†Hebrew Ladies Dispensary of Williamsburgh 84 Cook St		
Kings County Hospital Clarkson Ave	2 965	8 745
Long Island College Hospital Dispensary 340 Henry St	19 964	80 965
Lutheran Hospital E New York Ave Cor Powell St	11 392	31 640
†Memorial Dispensary for Women and Children 827 Sterling Pl	224	1 138
Methodist Episcopal Hospital 7th St. and 8th Ave	2 916	7 867
Norwegian Lutheran Deconess Home and Hospital 4th Ave and 46th St	2 618	2 859
†Prospect Clinic Fleet (Included in Report and Willoughby Sts Health Dept N Y C)		
†Ridgewood Clinic 753 (Included in Report Onderdonk Ave Health Dept N Y C)		
Sar Shalom Dispensary of the Williamsburg Mission to the Jewish 27 Throop Ave	2 302	5 186
St Catherine's Hospital 133 Bushwick Ave	5 341	11 296
St Christophers Hospital for Babies 247 283 Hicks St	806	3 148
United Israel Zion Hospital Dispensary 10th Ave 48th and 49th Sts	3 816	7 597
Victory Memorial Hospital 4th Ave and 92d St	311	573
Williamsburgh Hospital 106 112 S 3d St	3 635	7 563
Wyckoff Heights Hospital of Brooklyn 142 St Nicholas Ave	1 951	4 491
Buffalo		
Buffalo City Hospital 462 Grider St	30 790	189 832
(Including report of 8 Health Centers and O P Dept of Wende Hospital)		
Emergency Hospital of the Sisters of Charity Pine and Eagle Sts	3 974	7 491
†Health Center Free (Included in Report Dispensary No 1 379 of Buffalo City Amherst St Hospital O P Dept)		

	Patients Last Year	Visits Last Year
†Health Center Dispensary No 2 William St	591	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 3 Genesee St	1122	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 4 Seneca St	404	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 5 Court St	51	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 6 High St	24	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 7 Hodges Ave (special)	122	Free (Included in Report of Buffalo City Hospital O P Dept)
†Health Center Dispensary No 8 Grider St	462	Free (Included in Report of Buffalo City Hospital O P Dept)
Ernest Wende Hospital Broadway and Spring Sts		(Included in Report of Buffalo City Hospital)
Cohoes		
Cohoes Hospital 221 Main St	327	1 447
Corning		
†City Clinic City Hall	316	580
Corona		
†Corona Clinic 46th St.	127	(Included in Report Health Dept N Y C
Dobbs Ferry		
Dobbs Ferry Hospital Ashford Ave	200	493
Dunkirk		
†Dunkirk Public Health Center 510 Deer St	444	2 0,0
Elmira		
†Elmira City Dispensary 425 E Market St	440	[illegible]58
Flushing		
Flushing Hospital and Dispensary Parsons and Forest Aves	2 910	6 822
Geneva		
†Health Office City Hall	297	
Hornell		
†Hornell Health Center 108 Broadway	426	1 [illegible]07
Jamaica		
†Jamaica Clinic		(Included in Report Health Dept N Y C)
Kingston		
Kingston City Hospital 296 Broadway	15[illegible]	424
Lackawanna		
Moses Taylor Hospital Ridge Rd	422	4 345
Long Island City		
†Queens Plaza Clinic 138 Hunter Ave		(Included in Report Health Dept N Y C)
St John s Long Island City Hospital Dispensary 12th St and Jackson Ave	3 290	8 814
Mount Pleasant		
Grasslands Hospital	213	1 056
Mount Vernon		
Mount Vernon Hospital N 7th Ave	1 152	3 792
Newburgh		
St Luke s Hospital 70 DuBois St	249	522
New Rochelle		
New Rochelle Hospital Dispensary 16 Guion Pl	63[illegible]	1 911
New York		
Babies Hospital of the City of New York 697 Lexington Ave	4 410	16 034
Beekman Street Hospital 117 Beekman St	16 388	30 821
Bellevue Hospital Dispensary 425 E 26th St	[illegible]0 006	188 937
†John E Berwind Free Maternity 127 E 103d St	1 008	3 181
Beth David Hospital Dispensary 1830 Lexington Ave	10 371	19 258
Beth Israel Hospital Assn 70 Jefferson St	67 380	76 074
†Bloomingdale Clinic 227 W 99th St	5 095	5 610
Booth Memorial Hospital Dispensary 314 E 15th St	528	1 498
†Bowling Green Neighborhood Assn 45 West St	2 464	3 618
Broad Street Hospital Dispensary 127 29 Broad St	10 122	26 122
Bronx Hospital Dispensary 1285 Fulton Ave	16 024	39 007
†Chelsea Clinic W 33d St	307	(Included in Report Health Dept N Y C)
†Christ Church House 344 W 36th St	136	217
Columbus Hospital 226 E 20th St	3 402	10 001
Community Hospital 17 21 W 101st St	1 066	6 872
†Corlears Clinic Broome St	331	(Included in Report Health Dept N Y C)
†Day Camp Manhattan Ft F 90th St		(Included in Report Health Dept N Y C)
†East Harlem Health Center 345 E 116th St	14 550	52 198
†East Side Clinic for Children 325 E 84th St	[illegible] 828	7 000
Fordham Hospital Dispensary Southern Blvd and Crotona Ave	703	1 754
French Hospital 450 W 34th St	2,207	17 366
†Good Samaritan Dispensary 75 Essex St	41 993	11 [illegible]92
Couverneur Hospital Couverneur Slip and South St	92 020	107 1[illegible]4
†Grace Chapel Dispensary 414 E 14th St	282	2 970
Hahnemann Hospital 657 Park Ave	132	58
Harlem Hospital 136th St and Lenox Ave	27 154	79 547
†Harlem Reformed Church Dispensary 180 E 122d St	5 497	
†Health Center No 1 206 Madison St		
†Health Dept 505 Pearl St	69 802	144 8[illegible]7
(Including report of 21 separate clinics)		
Italian Dispensary O P Dept Italian Hospital 617 E 83d St	4 412	11 173
Jewish Maternity Hospital 270 E Broadway	1 097	3 470
†Judson Mem Health Center 243 Thompson St	1 506	5 240
Knickerbocker Hospital 503 W 131st St	8 980	12 889
Lebanon Hospital Dispensary Cauldwell and Westchester Aves	15 720	33 430
Lincoln Hospital and Home 320 Concord Ave	8 290	19 739
Lutheran Hospital of Manhattan 341 Convent Ave	2 408	
Manhattan Maternity and Dispensary 327 E 60th St	1 523	14 887
†Mott Haven Clinic 493 E 139th St		(Included in report Health Dept N Y C)
Mount Sinai Hospital Dispensary 1 E 100th St	53 416	173 682
New York City Children s Hospital Randall s Island	1 988	20 000
†New York Dispensary 34 Spring St	39 859	119 698
New York Homeopathic Medical College and Flower Hospital 450 E 64th St	3 293	16 358
New York Hospital 8 W 16th St	14 914	85 605
New York Infirmary for Women and Children 321 E 15th St	8 766	27 847
New York Nursery and Child s Hospital 161 W 61st St	5 042	21 349
New York Post Graduate Medical School and Hospital 303 E 20th St	67 836	227 015
†North Eastern Dispensary 222 E 59th St	10 799	22 306
†Northern Dispensary Waverly Pl and Christopher St	4 979	10 332
†North Western Dispensary 403 W 36th St	462	3 080
Anna Ottendorfer Dispensary O P Dept Lenox Hill Hospital 76th St and Park Ave	25 080	72 933
Presbyterian Hospital 41 E 70th St	26 589	107 898
Reconstruction Hospital 395 Central Park W	444	21 490
†Riverside Clinic W 145th St.	481	(Included in report Health Dept N Y C)
Roosevelt Hospital 428 W 59th St	30 757	69 711
Sloane Hospital for Women Amsterdam Ave and 59th St	14 914	85 605
St Luke s Hospital 114th St and Morningside Drive	23 184	95 264
St Mark s Hospital 175 2d Ave	8 664	23 763
St Vincent s Hospital of the City of New York 11th St and 7th Ave	5 851	12,213
†Stuyvesant Clinic E 13th St	540	(Included in report Health Dept N Y C)
†Stuyvesant Polyclinic of the City of New York 137 2d Ave	16,516	37 614
†Tremont Clinic 3d Ave and St Paul s Pl		(Included in report Health Dept N Y C)
†Trinity Dispensary 209 Fulton St	679	1 904
University and Bellevue Hospital Medical College Dispensary 348 E 26th St	22 632	89 8 6
†Vanderbilt Clinic and Day Camp 15 Amsterdam Ave	36 449	174 9[illegible]5
†Washington Clinic 128 Prince St		(Included in report Health Dept N Y C)
West Side Dispensary and Hospital 328 W 42d St	37 528	81 010
Wilkes Dispensary of St Mary s Free Hospital for Children 437 439 9th Ave	4 211	15 416
Woman s Hospital in the State of New York 141 W 109th St	5 222	2[illegible] [illegible]4[illegible]
†Yorkville Clinic F 57th St	439	(Included in report Health Dept. N Y C)
Niagara Falls		
†Bureau of Health 598 Pine Ave	2 097	2 698
Oneonto		
Aurelea Osborn Fox Memorial Hospital	749	5,542
Oswego		
†Oswego City Health Center 252 W 1st St	739	2 0[illegible]4
Poughkeepsie		
Samuel W Bowne Memorial Hospital Pendall Road	500	1 000
†Dept of Health 24 Washington St	2 348	2 946
Vassar Bros Hospital Reade Pl	893	3 625
Rochester		
†Baden Street Dispensary 160 Baden St	3 759	16 72[illegible]
Rochester General Hospital 501 W Main St	3 753	18,5[illegible]8
Rochester Homeopathic Hospital 224 Alexander St	1 777	6 439
Rome		
Oneida County Hospital Floyd Ave R F D No 4	1 148	1 148
Schenectady		
†Day Nursery Free Dispensary 25 Lafayette St	1 737	2 233
†Health Center 508 Union St	1 968	6 902
Staten Island		
†Richmond Clinic Bay and Baltic Sts Stapleton		(Included in report Health Dept N Y C)
St Vincent s Hospital Dispensary Bard and Castleton Aves West New Brighton	403	1 783
Staten Island Hospital Castleton Ave Tompkinsville	2 061	3 9[illegible]3
Syracuse		
†Syracuse Free Dispensary 610 E Fayette St	5 267	27 639
Troy		
Samaritan Hospital Peoples and Burdette Aves	2 095	2 906
The Troy Hospital Assn 87 Oakwood Ave	1 9[illegible]8	2 543
Utica		
†Utica Dispensary 224 Mary St	2 056	11 644
White Plains		
†Board of Health City of White Plains 45 Hamilton Ave	857	2 204
Yonkers		
St John's Riverside Hospital (Sherman Dispensary) Ashburton Ave	4 790	15 806
St Joseph s Hospital S Broadway and Park Sts	2 721	6 1[illegible]1
Yonkers Homeopathic Hospital and Maternity 127 Ashburton Ave	1 378	2 404
Totals	1 182 818	3 439 038

NORTH CAROLINA

	Patients Last Year	Visits Last Year
Asheville		
Highland Hospital Inc	191	
Fayetteville		
Highsmith Hospital	940	3 832
Lincolnton		
Lincolnton Hospital		
Morganton		
Grace Hospital Dispensary King St	624	1 437
New Bern		
St Luke s Hospital Broad and George Sts	1 3o9	7 428
Raleigh		
†Wake County Free Clinic 1o W South St	771	1 408
Wilmington		
†Free Clinic Court House	963	4 122
Winston Salem		
†City Health Dept Main and 1st Sts	1 400	2 o5o
†Lawrence Clinic Inc 719 Oak St	7oo	1 128
Totals	6 948	22 9o5

NORTH DAKOTA

Grand Forks		
St Michael s Hospital Lewis Blvd	153	2o4
Jamestown		
Trinity Hospital	7oo	
Totals	853	2o4

OHIO

Akron		
†Dept of Public Health City Bldg	14 885	47 972
Cambridge		
Lawrence Hospital 614 Clark St		
Canton City		
†Canton City Clinic Auditorium Bldg 5th St N W	1 1o9	4 o54
Celina		
Otis Hospital E Market St		
Cincinnati		
†Cincinnati Polyclinic 1411 Race St	1 8oo	
†Eclectic Medical College Clinic 630 W 6th St	2 16o	7 228
Jewish Hospital Burnett Ave	2 563	26 5o1
†Ranley Health Center 129 E 9th St	2 795	3 441
†University of Cincinnati Medical College Clinic Cincinnati General Hospital Goodman and Burnett Aves	9 349	36 o69
†Wilhelm and G tte Backman Dispensary 729 W 6th Ave	5 868	10 011
Cleveland		
Babies Dispensary and Hospital 2500 E 35th St	23 529	2o 917
Parview Park Hospital 3305 Franklin Ave	(New)	
Huron Road Hospital Society Huron Rd below 9th St	3 458	6 33o
Lakeside Hospital and Western Reserve University Lakeside Ave and 12th St		186 o2o
Lakewood Public Hospital Dispensary 12611 Madison Ave	821	2 924
Maternity Hospital and Western Reserve University 3o3o Cedar Ave	3 7o8	4o 042
Mount Sinai Hospital 1800 E 105th St		45 886
St Alexis Hospital 1163 Broadway S E	1 336	2 248
St Luke s Lospital 6606 Carnegie Ave	15 284	
St Vincent s Charity Hospital E 22d St and Central Ave S E	13 o75	49 798
Columbus		
Children s Hospital Miller and Fair Ave	6 o73	
†Columbus Free Dispensary 222 E Long St	1 2o2	2 636
State Street Dispensary Ohio State University 315 E State St	2 o2o	9 3o2
University Homeopathic Hospital 11th and Nell Aves	11 463	
Dayton		
Miami Valley Hospital Apple St	2 366	5 783
St Elizabeth s Hospital Hopeland St	3 114	3 6o0
Hamilton		
†Clinic Health Dept Front and Ludlow Sts	6o4	2 169
Port Clinton		
Pool Hospital 125 E 3d St	(No data available)	
Portsmouth		
Schirrmann Hospital 731 8th St	4 000	4 5oo
Ravenna		
†County Board of Health and Red Cross Clinic	548	
Springfield		
Springfield City Hospital York and Clifton Sts	1 42o	2 979
Toledo		
†City Dispensary 5o3 N Erie St	(No data available)	
Maternity and Children s Hospital 1609 Summit St	(No record)	
St Vincent s Hospital 2213 Cherry St	8o3	3 521
†Toledo District Nurse Assn Dispensary 1903 Monroe St	2 oo1	4 243
Toledo Hospital 1711 Cherry St	44o	2 7oo
Van Wert		
Van Wert County Hospital Central Ave and Chestnut St	485	542
Youngstown		
St Elizabeth s Hospital 1026 Belmont Ave	576	894
Youngstown Hospital Assn Francis St	1 o37	4 9o3
Totals	140 8o5	461 613

OKLAHOMA

Muskogee		
†Muskogee Public Health Assn, 525 Court St		
Oklahoma		
State University Hospital 401 E 2d St	2 3o2	16 214
Sulphur		
Sulphur Hospital Sanitarium	(New)	
Totals	2 3o2	16 214

OREGON

Portland		
†Portland Free Dispensary 276 4th St	9 29o	16 3o1
Seltwood General Hospital 575 Harvey Ave	1 495	1 667
The Dalles		
The Dalles Hospital	2 o2o	4 2o0
Totals	12 8o5	22 268

PENNSYLVANIA

Allentown		
Allentown Hospital 17th and Chew Sts	1 948	6 995
Sacred Heart Hospital 4th and Chew Sts	1 o14	2 176
Altoona		
Altoona Hospital Howard Ave and 7th St	3 5o4	11 842
Mercy Hospital 2601 8th Ave		2 o39
Ashland		
State Hospital for Injured	2 421	7 1o7
Beaver Falls		
Providence Hospital 3d Ave and 9th St	1o9	2o8
Bellevue		
Suburban General Hospital Jackson St	175	
Bloomsburg		
Bloomsburg Hospital	194	245
Blossburg		
Blossburg State Hospital	1 225	6 125
Bryn Mawr		
Bryn Mawr Hospital Dispensary Bryn Mawr Ave	1 371	5 187
Carlisle		
Carlisle Hospital South and Wilson St	653	
Chambersburg		
Chambersburg Hospital Lincoln Way E	1oo	2o4
Chester		
Chester Hospital, 9th and Barclay Sts	3 979	5 158
J Lewis Crozer Homeopathic Hospital Upland Ave	838	3 779
Clearfield		
Clearfield Hospital Turnpike Ave	782	2 69o
Coaldale		
State Hospital	1 991	11 917
Columbia		
Columbia Hospital 7th and Poplar Sts	158	362
Confluence		
Frantz Hospital Logan H	654	2 6o5
Easton		
Easton Hospital 66o Wolf Ave	2 188	3 381
Erie		
†State and Municipal Clinic 51o State St	1 336	6 638
St Vincent s Hospital 24th and Sassafras Sts	1 366	2 134
Germantown		
Germantown Dispensary and Hospital 64o E Pennsylvania St	5 48o	2o 336
Greensburg		
Westmoreland Hospital Assn 4oo W Pittsburg St	7o3	4 993
Harrisburg		
Harrisburg Hospital Front and Mulberry Sts	8 o77	1o 341
Harrisburg Polyclinic Hospital Front and Harris Sts	781	1 288
Hazleton		
State Hospital of Middle Coal Field E Broad St	968	3 72o
Heilwood		
Penn Mary Hospital (Bethlehem Steel Company)		
Johnstown		
†Cambria Steel Company Hospital Lowman St	18 115	52 788
Kingston		
Nesbitt West Side Hospital 562 Wyoming Ave		
Lancaster		
Lancaster General Hospital 53o N Lime St	5o9	2 3o9
St Joseph s Hospital College and Marietta Aves	949	3 113
Lebanon		
Good Samaritan Hospital Dispensary 4th and Walnut Sts	118	522
Lebanon Sanitorium 4th and Willow Sts	444	
McKeesport		
McKeesport Hospital 1500 5th Ave	441	3 3o7
Monongahela		
Memorial Hospital Association of Monongahela Chess St	19o	268
Mount Pleasant		
Jacob Justice Free Dispensary O P Dept Mount Pleasant Memorial Hospital 727 Main St	218	4o3
Nanticoke		
State Hospital of Nanticoke Washington St	2 3o6	
Norristown		
Montgomery Hospital Powell and Basin Sts	3o2	49o
Palmerton		
Palmerton Hospital	2 478	13 233
Philadelphia		
American Hospital for Diseases of the Stomach 1809 Wallace St	617	4 893
Babies Hospital of Philadelphia 334 S 9th St	1 7o9	8 528
Amy S Barton Dispensary O P Dept Hospital of Woman s Medical College of Pennsylvania 335 Washington Ave	4 374	12 447

	Patients Last Year	Visits Last Year
†Chestnut Hill Dispensary 8815 Germantown Ave		
Children's Homeopathic Hospital Franklin and Thompson Sts	4 490	17 285
Children's Hospital of the Mary J Drexel Home 2100 S College Ave	4 417	
Children's Hospital of Philadelphia Bainbridge and 18th Sts	8 226	26 786
Diagnostic Hospital of Philadelphia 1731 Vine St	4 805	5 175
Frankford Hospital Frankford Ave and Wakeling St	2 126	9 118
Frederick Douglas Memorial Hospital 1630 Lombard St		
Garretson Hosp 18th and Hamilton Sts	2 479	4 091
Germantown Dispensary and Hospital Penn St near Chew	3 451	15 363
Hahnemann Medical College and Hospital 15th St above Race	8 579	32 267
‡Health Department of Girard College		
†Henry Phipps Institute 7th and Lombard Sts	3 247	11 343
Hospital of the Protestant Episcopal Church in Philadelphia Front St and Lehigh Ave	22 194	80 110
Hospital of the University of Pennsylvania 3400 Spruce St	20 443	88 67
Hospital of the Woman's Homeopathic Assn of Pennsylvania 20th St and Susquehanna Ave	2 870	14 881
Hospital of the Woman's Medical College of Pennsylvania 2121 N College Ave	2 860	10 889
Howard Hospital 801 S Broad St	6 251	26 076
Jefferson Maternity Dispensary 2545 Wharton St	(Included in report of Jefferson Medical College Hosp.)	
Jefferson Maternity Hospital 224 S 7th St	(Included in report of Jefferson Medical College Hosp.)	
Jefferson Medical College Hospital 10th and Sansom Sts	32 929	114 605
Jewish Hospital Assn of Philadelphia 5500 Old York Road	4 84	17 821
Kensington Hospital for Women 132 36 Diamond St	946	4 727
Lankenau Hospital Girard and Corinthian Aves	7 309	30 288
Medico Chirurgical Hospital of Philadelphia 18th and Cherry Sts	12 156	25 141
Mercy Hospital 5000 Woodland Ave	733	1 412
Methodist Episcopal Hospital S Broad and Wolf Sts	7 496	28 005
Misericordia Hospital 54th St and Cedar Ave	3 928	15 654
Mount Sinai Hospital 1429 S 5th St	16 562	53 430
Northeastern Hospital of Philadelphia E Allegheny and Tulip Sts	5 311	17 197
†Northern Dispensary of Philadelphia 608 10 Fairmount Ave	3 270	6,259
Northwestern General Hospital 2017 21 N 22d St		4 924
Pennsylvania Hospital Dept for Sick and Injured 8th and Spruce Sts	15 425	5 190
†Philadelphia Dispensary 127 S 5th St	19 863	56 826
Philadelphia General Hospital 34th and Pine Sts	1 243	9 109
Philadelphia Lying In Charity Hospital 126 N 11th St	1 682	
Polyclinic Hospital 1818 Lombard St	22 711	76 936
Presbyterian Hospital in Philadelphia 51 N 39th St	7 171	36 311
Samaritan Hospital 3401 N Broad St	3 841	19 049
Southeastern Dispensary and Hospital for Women and Children 736 S 10th St	1 200	2 600
†Southern Dispensary 318 Bainbridge St	5 696	12 761
St Agnes Hospital 1900 S Broad St	20 048	60 476
St Christopher's Hospital for Children N W Cor Lawrence and Huntington Sts	3 331	12 941
St Joseph's Hospital 16th St and Girard Ave	7 408	20 761
St Luke's Homeopathic Hospital 4414 50 North Broad St	8 342	77 658
St Mary's Hospital Franklin and Palmer Sts	8 494	19 683
St Timothy's Memorial Hospital Dispensary Ridge and Jamestown Aves	828	2 278
Stetson Hospital of Philadelphia 1745 N 4th St	6 772	21 260
West Philadelphia Hospital for Women 403 Parish St	2 009	6 352
West Philadelphia General Homeopathic Hospital and Dispensary 1234 N 54th St	4 867	
Woman's Hospital of Philadelphia N College and 22d Sts	19 957	(No record)
Woman's Southern Homeopathic Hosp 73 745 S Broad St	1 124	2 060
Philipsburg		
Cottage State Hospital	606	2 345
Pittsburgh		
Allegheny General Hospital 110 E Stockton Ave	7 830	18 793
Children's Hospital Forbes St and McDevitt Place	3 98	
Homeopathic Medical and Surgical Hospital Dispensary of Pittsburgh 52 0 Center Ave	3 401	10 415
Mercy Hospital Pride and Locust Sts	4 000	14 703
Montefiore Hospital Assn of Western Pennsylvania 3000 Center Ave	(No record)	2 700
Passavant Hospital Reed and Roberts Sts	5 2	11 804
†Pittsburgh Free Dispensary 43 Fernando St	1 569	2 52
†Pittsburgh Hospital Franktown Ave and Washington Blvd	494	811
Presbyterian Hospital Montgomery and Sherman Aves	2 627	5 101
South Side Hospital S 20th Mary and Jane Sts	3 167	8 854
St Francis Hospital 45th St near Penn Ave	1 421	10 870
St John's General Hospital 3339 McClure Ave	2 970	3 337
St Joseph's Hospital and Dispensary 2114 Carson St	2 613	5 209
University Maternity Dispensary O P Dept Elizabeth Steel Magee Hospital Forbes and Halket Sts	513	4 010
Western Pennsylvania Hospital 4800 Friendship Ave	8 321	22 765
Pittston		
Pittston Hospital Dispensary	702	2 320
Pottstown		
Homeopathic Hospital Pottstown Hospital 7-9 N Charlotte St	155 780	467 1 747
Pottsville		
Pottsville Hospital Mauch Chunk and Jackson Sts	340	1 318
Reading		
Homeopathic Medical and Surgical Hospital 135 N 6th St	3 01-	4 704
Reading Hospital Front and Spring Sts	3 778	6 389
St. Joseph's Hospital 1215 Walnut St	2 136	5 638
Ridley Park		
Taylor Hospital Dispensary	346	1 117
Rochester		
Rochester Hospital 500 Pumey St	28	825
Sayre		
Robert Packer Hospital S Wilbur Ave	6 204	19 343
Scranton		
Hahnemann Hospital 316 Colfax Ave	379	484
†Medical Clinic Adams Ave	1 488	2 146
Moses Taylor Hospital	4 583	20 091
State Hospital of the Northern Anthracite Coal Region of Pennsylvania 410 Franklin Ave	4,2 8	14 418
West Mountain Sanatorium 203 Linden St		
West Side Hospital	1 2	1 500
Shamokin		
Trevorton Shamokin and Mt Carmel State Hospital R F D No 1	2 407	5 291
South Bethlehem		
St Luke's Hospital Ostrum St	381	1 048
Spangler		
Miner's Hospital	966	
West Chester		
Homeopathic Hospital of Chester County	150	214
Wilkes Barre		
†Medical Clinic 184 S Washington St	7,303	16 468
Mercy Hospital 196 Hanover St	870	4 464
Wilkes Barre City Hospital N River and Auburn Sts	692	1 377
Wyoming Valley Homeopathic Hospital 149 Dana St	1 0	344
Williamsport		
Williamsport Hospital Campbell and Louisa Sts	641	812
Windber		
Windber Hospital Somerset Ave	17 246	50 000
York		
York Hospital and Dispensary College Ave and Oak Lane	2 0 1	2 551
Totals	7 458	1 689 912

RHODE ISLAND

Newport		
Newport Hospital Friendship St	1 135	1 49-
Pawtucket		
Memorial Hospital Prospect St	1 870	11 461
Park Place Hospital Park Pl	922	2,202
Providence		
Homeopathic Hospital of Rhode Island 6- 64 Jackson St	04	2 289
Lydia Brown Nicker son House Providence City Hospital 121 Delaine St	3 004	7 835
†North End Dispensary 49 Orms St	1 304	3 247
Providence City Hospital Eaton St	5 482	20 712
Providence Lying In Hospital 96 State St	703	1 17-
Rhode Island Hospital 593 Eddy St	7 871	36,242
St Joseph's Hospital Broad St	2 502	6 780
Riverpoint		
†Federal Hill House Assn 400 Atwell's Ave	6 762	28 621
†Pawtuxet Valley Visiting Nurse Assn Clinic Allen St	1 0-	10 204
Woonsocket		
Woonsocket Hospital 115 Case Ave	200	600
Totals	35 781	137 860

SOUTH CAROLINA

Charleston		
Roper Hospital Lucas and Calhoun Sts	9 235	15,821
Columbia		
†Columbia Children's Clinic, 401 Cervais St	2 697	6 0-5
Columbia Hospital 2000 Hampton Ave	2 182	3 600
South Carolina Baptist Hospital 1519 Marion St	2 063	

	Patients Last Year	Visits Last Year
Greenville		
Emma Moss Booth Memorial Hospital Vardry Heights	3 624	
Spartanburg		
†Mary Black Clinic E Main St	1 227	2 770
Totals	21 028	26 206

SOUTH DAKOTA

Chamberlain		
Chamberlain Sanitarium and Hospital	(No data available)	
Deadwood		
St Joseph s Hospital Charles St	215	750
Lead		
Homestake Hospital 214 W Main St		42 705
Sioux Falls		
†Sioux Falls Medical and Surgical Clinic 203 S Minnesota Ave	7 109	23 386
Sisseton		
Powell Hospital	1 474	
Watertown		
Bartron Hospital Clinic	1 634	4 368
Webster		
†Peabody Clinic		
Totals	11 143	71 209

TENNESSEE

Chattanooga		
†Chattanooga General Clinic City Hall	9 288	
Newell and Newell Sanitarium 707 Walnut St	3 025	27 791
Knoxville		
Knoxville General Hospital	1 200	1 500
†Knoxville Health Center Locust and Clinch Sts	3 500	12 851
Memphis		
Memphis General Hospital Madison Ave	13 311	46 193
Nashville		
Geo W Hubbard Hospital 1117 1st Ave S	285	513
Millie E Hale Hospital 523 7th Ave S	1 109	1 297
Nashville City Hospital Nance and Fillmore Sts	4 000	9 920
Vanderbilt University Hospital Free Dispensary 700 5th Ave S		9 339
Totals	35 717	109 404

TEXAS

Arlington		
Knights Templar Hospital Keystone Stop	300	363
Austin		
Austin City Hospital 14th and Sabine Sts	(No data available)	
Dallas		
Baylor Hospital 3315 Junius St	3 316	8 740
St. Paul s Sanitarium 3121 Bryan St	(New)	
El Paso		
†El Paso County Dispensary 1st and Campbell Sts	4 510	13 748
Fort Worth		
†Fort Worth Welfare Assn Clinic	3 645	5 886
Galveston		
John Sealy Hospital 816 Avenue B		18 318
Houston		
Municipal Hosp City Hall	7 148	18 483
Marlin		
The Torbett Sanatorium 317 Coleman St	2 743	4 441
Orange		
Frances Ann Lutcher Hospital Pine and 2d Sts	(New)	
San Antonio		
Robt B Green Memorial Hospital 515 Morales St	6 346	17 049
St. Luke s Clinic 745 W Houston St	1 408	3 227
Waco		
Colgin Hospital and Clinic		
Providence Sanitarium Vermont and N 18th Sts	141	707
Totals	29 760	90 308

UTAH

Logan		
Utah Idaho Hospital	1 20	
Salt Lake City		
†Community Clinic and Dispensary 149 Regent St	789	2 273
County Hospital 21st and S State Sts	1 100	3 024
Salt Lake City Emergency Hospital 10 S State St	1 081	
Totals	4 98	5 277

VERMONT

Barre		
City Hospital	708	
Burlington		
†Burlington Free Dispensary 106 S Pearl St	1 310	5 445
Mary Fletcher Hospital 121 27 Colchester Ave	1 300	
Proctor		
Proctor Hospital	292	1 575
Totals	3 513	920

VIRGINIA

Alexandria		
Alexandria Hospital Washington and Duke	1 087	
†Venereal Dis Clinic and General Clinic for City Poor N Fairfax St	1 346	4 896
Charlottesville		
†University of Virginia Dispensary		4 303
Danville		
†Danville Health Dept	2 918	3 682
Lynchburg		
Bureau of Health O I Dept Lynchburg Hospital 205 10th St	1 168	6 818
Norfolk		
Hospital of St Vincent de Paul Wood and Church Sts	4 024	9 399
†Kings Daughters Children s Clinic 300 W York St	4 421	6 918
†Norfolk City Free Clinic and Dispensary Academy Square and Court St	18 000	
Norfolk Protestant Hospital Raleigh and College Aves		3 207
Richmond		
†Medical College of Virginia Free Dispensary 12th and Clay Sts	4 963	28 347
Virginia Hospital 11th and Clay Sts	6 780	3 000
Roanoke		
Lewis Gale Hospital Inc 419 Roanoke St S W	917	4 940
†Roanoke Visiting Nurse Assn and Dispensary Municipal Bldg	1 114	8 273
University		
University of Virginia Hospital		4 353
Totals	47 868	88 446

WASHINGTON

Aberdeen		
Aberdeen General Hospital	1 143	
Centralia		
Lee A Scace Hospital 701 H St		
Hoquiam		
Hoquiam General Hospital 606 K St	2 880	8 381
Port Angeles		
Port Angeles General Hospital	150	375
Seattle		
†Roosevelt Clinic 1114 Boylston Ave		13 993
†The Seattle Clinic Joshua Green Bldg		(No data available)
Seattle City Hospital and Municipal Clinics Public Safety Bldg 4th and Yesler Way		20 921
Spokane		
†Medical Clinic City Hall	791	15 820
Totals	4 964	59 490

WEST VIRGINIA

Bluefield		
St Luke s Hospital 51 Bland St	1 150	
Charleston		
Salvation Army Hospital 612 Virginia St	349	1 027
Davis		
Allegheny Heights Hospital		
Fairmont		
Fairmont Hospital No 3 Cuffey and Columbia Sts	350	
Huntington		
Greater Huntington Hospital	468	1 578
Kessler Hatfield Hospital		
Martinsburg		
Shenandoah Valley Sanitorium 306 W John St	(No data available)	
Spencer		
West Virginia Methodist Episcopal Hospital		1 580
Welch		
Welch Hospital No 1	305	
Wheeling		
Ohio Valley General Hospital 2000 Eoff St	802	5 134
Totals	5 009	7 739

WISCONSIN

Beloit		
Dr Newman s Sanitarium 1511 5th St		
†Visiting Nurse Assn Clinic 425 Public Ave	1 094	3 777
Eau Claire		
Sacred Heart Hospital	650	
Green Bay		
†Health Center City Hall	872	1 152
Madison		
University Clinic Dept of Clinical Medicine University of Wisconsin 762 Langdon St	6 579	40 602
†Marquette Dispensary Clinic 4th and Reservoir Ave	2 397	15 198
Milwaukee Children s Hospital 219 10th St	3 054	9 904
Milwaukee County Dispensary O P Dept Milwaukee County Hospital of Wauwatosa 160 5th St	29 833	45 294
Milwaukee Infants Hospital 477 Bradford Ave	598	
Milwaukee Maternity and General Hospital 830 Sycamore St	1 205	7 000
Roosevelt General Hospital 573 Class St	307	669
St Mary s Hospital 448 Lake Drive	469	2 889
Platteville		
Wilson Cunningham Hospital Main and Chestnut Sts	15 000	23 000
Superior		
St. Mary s Hospital Clough Ave and Broadway	745	
Totals	62 733	149 576

WYOMING

Casper		
†Medical Clinic City Hall	326	1,500
Thermopolis		
Hopewell Hospital		
Wheatland		
Wheatland Hospital	1 825	3 220
Totals	2 151	4 720

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 5, 1922

DISPENSARY SERVICE IN THE UNITED STATES

We publish this week statistics based on an extensive survey of the dispensaries, outpatient departments, clinics and other medical institutions having to do with the care and treatment of ambulatory patients The figures are based on reports received from the superintendents, medical directors or other executives of the dispensaries or in connection with governmental dispensaries from the municipal, state or national officers of these institutions The figures, therefore, were obtained from official sources and are reliable Our acknowledgments are due to all who have cooperated toward the success of the survey Valuable assistance was received from the officers of national health agencies, hospital associations and voluntary medical organizations having to do with ambulatory patients Hearty cooperation was received also from several of the state hospital committees

NUMBER OF DISPENSARIES IN THE UNITED STATES

Information is published in regard to 3,243 institutions from which reports were received and which are known to exist Statements from reliable sources indicate that there are several hundred others for many of which the names have been obtained but from which repeated requests have failed to bring reports which would enable us to include them in our published lists Even as we go to press reports from other institutions continue to come in, a conservative estimate indicates that the total number of dispensaries in the United States will exceed 4,000 *Satisfactory information* has not been obtainable from many institutions for the reason that clinic and office record systems are lacking

Of the 3,243 dispensaries listed, 946 are outpatient departments of hospitals or independent dispensaries which provide general medical and surgical service for their patients, while 2,297 are special dispensaries, such as those for tuberculosis and venereal diseases, mental hygiene and baby and child hygiene clinics, dispensaries of eye, ear, nose and throat and orthopedic hospitals, dispensaries connected with industrial plants, and offices and stations of the United States Public Health Service

DISPENSARIES PROVIDING GENERAL CARE FOR THEIR PATIENTS

Statistics published this week deal mainly with the more important group of outpatient departments, or those which provide for the general, medical and surgical care of patients There are 946 of these institutions, including 689 outpatient departments of general hospitals and 257 independent dispensaries A list of these institutions is published in which are given the name and address of each dispensary and its location, the total number of patients cared for during the last fiscal year and the number of visits made by those patients during that time Similar information regarding special dispensaries such as those for tuberculosis, venereal disease and mental hygiene, is being prepared for publication in the near future and the full report of the survey is to be made available in pamphlet form

GENERAL DISPENSARIES BY STATES

One of the tables published gives the distribution of general dispensaries by states Of the 946, New York State has the largest supply, 163, followed by Pennsylvania with 136, Massachusetts with 74 California with 56, and Illinois with 48 In regard to the numbers of patients cared for, New York naturally leads with 1,182 818, followed by Pennsylvania with 537,438, Massachusetts with 268,775, California with 193,920, and Illinois with 169,872 Of the 3,872 345 patients attending the general dispensaries, 2 717,850, or 70 per cent, attended dispensaries in the fifty largest cities In New York, of the 1,182,818 dispensary patients, 958,622, or 81 per cent, are in New York City

GENERAL DISPENSARIES IN THE FIFTY LARGEST CITIES

Table 3 of the statistics shows that, of the 946 general dispensaries 416, or 44 per cent, are located in the fifty largest cities New York leads with sixty-nine, followed by Philadelphia with fifty-four, Chicago with thirty-three, Boston with twenty-seven and Baltimore with twenty-two As to the number of patients cared for, New York leads with 958,622, followed by Philadelphia, with 356,680, Boston, with 189,692, Chicago with 159,493, and Baltimore, with 109,387 Reports from the dispensaries of Seattle and Indianapolis do not give the total number of patients treated during the year

SERVICE RENDERED BY GENERAL DISPENSARIES

The importance of general dispensaries to the public is indicated by the fact brought out in the statistics that these 946 institutions handled 3,872,345 patients during the year who, during that time, made 11 798,887 visits Including a reasonable estimate for the seventy-five general dispensaries known to exist but from which

reports are not received, these figures would be increased to 4,500,000 patients and 13,500,000 visits

SERVICE RENDERED BY SPECIAL DISPENSARIES

Reports received from special dispensaries show that although on the average they cared for smaller numbers of patients at the same time the patients, as a rule, made larger numbers of visits An estimate for the 2,297, based on definite reports which were received from the majority indicates that these institutions cared for a total of 3,750,000 during the year who, during that time, made approximately 16,000,000 visits

The total number of patients in all dispensaries during the year, therefore, was approximately 8,000,000 who, during the same time, made approximately 29,500,000 visits to those institutions

DISPENSARY PROBLEMS

One of the live problems relating to dispensaries is the abuse of such service by patients who are able to employ physicians Investigation indicates that this abuse is not so extensive as has been supposed The problem is being solved by a careful investigation of the financial status of patients, which is being done by many dispensaries through a cooperation with bureaus of charity which keep a register of the financial status of those seeking financial assistance

Another problem is the establishment of a schedule of fees for the various services rendered by the dispensary and varying in accordance with the extent of the services rendered A large number of dispensaries have already established such schedules, but there is no uniformity among dispensaries in the fixing of such charges There is, also, an evident lack of justice to the patient and of economy to the dispensary in the disproportionate charges for different services in the same dispensary, such, for example, as a charge of ten dollars for roentgen-ray examination, with no charge for a Wassermann test The next few years will doubtless see much progress in regard to the fixing of reasonable fees so that a larger proportion of the expense of conducting the dispensary can be borne by the patients

Another problem which in recent years has been given extensive discussion is that of the pay clinics The object of such clinics is to enable patients who cannot afford to pay the fees charged by physicians to secure satisfactory medical and surgical service at lower rates Such clinics will be instruments of great good if they accept only such patients as are referred to them by physicians or who are found, on investigation, to be unable to pay full fees In this way the pay clinic will work in cooperation, and not in competition, with the medical profession

GROWTH IN NUMBER OF DISPENSARIES

The first dispensary on record[1] was established in London, England, in 1696, to provide medical care for the poor The first established in the United States was in Philadelphia, in 1786, the second, in New York, in 1790, and the third in Boston, in 1796 We find no record of any survey of dispensaries having been made until that by the United States Census Bureau in 1910, at that time there were only 574, including both general and special dispensaries An estimate in 1916 placed the number at 900[1] The present survey gives definite information in regard to the existence of 3,243 dispensaries, not including several hundred others in regard to which there appears to be authoritative evidence regarding their existence but from which thus far it has been impossible to obtain reports Including the latter, the total would be more than 4,000

The increase in population in the country has had some influence on the development of outpatient dispensaries, but the chief stimulus, especially in recent years, has been the increasing popularity of the dispensary as a place to secure satisfactory medical service It has been during recent years also that dispensaries have established well-organized medical staffs and have required their prompt and regular attendance In addition to this, there has been an increasing tendency toward the establishment of graduated scales of fees by which those who were unwilling to accept charity at the free dispensaries are more willing to patronize the institutions Another influence leading to the increase in numbers is the recognition by hospitals of the importance of outpatient departments as a means of better serving the people in their communities It is found that many hospital patients during convalescence can secure the necessary follow-up treatment as ambulatory patients of the outpatient departments

1 Davis and Warner Dispensaries New York 1918

THE BLOOD DURING WATER TRANSPORT

The remarkable constancy in the composition of the important tissues and fluids within the organism must excite a never-failing interest in any one who studies the fundamental physiologic processes Regulatory functions are continually being brought into play to secure the uniformity referred to The various adjustments and adaptations evidently acting to secure a proper arterialization of the blood under the changing condition of atmosphere and tissue needs for oxygen have often been cited in THE JOURNAL An equally effective regulation seems to occur in connection with the behavior of water in the body The variations in intake may be very large, the amount and paths of the output may also show large irregularities depending on a number of unlike circumstances, yet in health the water balance of the body seems to result in a distribution of the "universal solvent" that averts undue concentrations or dilutions wherever an opportunity for the intervention of water may arise

No adequate explanation has ever been offered as to how the large quantities of water often consumed can be taken care of without upsetting the normal

equilibrium within the organism Profuse secretion of dilute urine follows the ingestion of liberal quantities of water by mouth As much may be passed in an hour as is ordinarily voided in a day As Rowntree [1] has recently pointed out, the inference is that water is absorbed, the absorption results in hydremia, which in turn brings about diuresis If this reasonable supposition were true, one would expect in the blood pronounced changes, for a time at least, which might become the stimulus for the compensatory kidney functions, just as an accumulation of carbon dioxid in the blood leads to respiratory changes designed to eliminate the excess of the waste product

Studies of the blood during active water transport have yielded discordant results It might be expected that something significant would be disclosed in the extreme types of this movement as they occur in chronic polyuria, in which it is known that from 15 to 25 liters of urine a day may be excreted Yet cases of diabetes insipidus investigated by Christie and Stewart [2] at the Lakeside Hospital, Cleveland, show how trifling the changes in the concentration of the blood plasma, as regards the electrolytes, may be when great changes in the ingestion, excretion and transportation of water are in progress So far as their experience goes, it would seem that it is only in exceptionally favorable circumstances that even minute changes in the conductivity of the serum, a quantity susceptible of being measured to so considerable a degree of accuracy, can be detected with certainty For example, blood specimens obtained immediately before and immediately after a long period of complete deprivation of water (twenty-four hours or more) showed no definite differences in the electrical conductivity of the serum which could be associated with changes in the rate at which water was being absorbed, transported and excreted The same thing was true of the percentage volume of serum Comparison of blood specimens procured within half an hour, and again after five or six hours, after the resumption of water drinking, with the specimens obtained just before or just at the end of the period of water deprivation, also revealed differences in the conductivity of the serum so slight and so inconstant that it was impossible to connect them definitely with changes in the intake of water

These facts do not contradict the possibility of some changes in the relative volume of plasma and corpuscles or in the total volume of the circulating fluid, even though its osmotic pressure and the concentration of the electrolytes remain the same The problem of changes in the tissue water under such conditions, however, looms large Rowntree [3] has described symptoms attributable to "water intoxication" occurring without significant changes in body temperature, edema or marked increases in plasma volume They resemble the symptoms of clinical uremia in many respects, and raise the question as to the possible relation of water intoxication, if any exists, to uremia, eclampsia and epilepsy At any rate, the blood and kidneys no longer deserve sole consideration in the future analysis of the problem of water balance and transport in the organism

1 Rowntree L G The Water Balance of the Body Physiol Rev 2 116 (Jan) 1922

2 Christie C D and Stewart G N Study of Some Cases of Diabetes Insipidus with Special Reference to the Detection of Changes in the Blood When Water Is Taken or Withheld Arch Int Med 29 555 (May) 1922

3 Rowntree L G Water Intoxication J A M A 78 1840 (June 10) 1922

A RECONSIDERATION OF AUTOLYSIS AS A VITAL PROCESS

Some years ago the medical literature was full of articles on autolysis, this process was invoked to explain so many unexplained phenomena that it became almost as much of a catchword as "endocrines" now is Attention seemed to be diverted from the subject after a time, and only a few pathologists and biochemists have continued investigating this phenomenon The tumult and the shouting having now faded well away, it is interesting to consider what has survived of it all, and what significance is now attached to autolysis

The importance of autolysis in the disintegration of dead tissues has never been questioned since Martin Jacoby's classical experiments and this function seems now to be established beyond dispute The problem that has more agitated investigators is the part played by autolysis in physiologic processes and in normal metabolism It seems reasonable to assume that a property so well-nigh universal as autolysis must have been developed to meet some more common situation than the removal of dead tissues, especially since the capacity of cells for autolysis varies quantitatively rather closely with their metabolic activity A consideration of this topic by Bradley [1] presents a matured analysis from the biochemical standpoint, and gives us a basis for a new consideration of the significance of autolysis in medicine

As almost inevitably is the case the introduction of new methods has cast a new light on the old problem, and our education in respect to the essential importance of the H-ion concentration in biologic processes has made it necessary to discard much of what had formerly been learned concerning autolysis, and to revalue the rest Wiener, and later Bradley and his associates especially, have shown that autolysis depends absolutely on acidity, for when tissues have their normal H-ion concentration, which is essentially the same as that of the blood, no autolysis can take place Whenever the circulation within a tissue is stopped, whether within the body or on its removal from the body, acidity begins to increase because of continued metabolism

1 Bradley H C Autolysis and Atrophy Physiol Rev 2 415 (July) 1922

under asphyxial conditions, which leads to an accumulation of organic acids that cannot be completely destroyed because of lack of oxygen When this acidity has developed to a certain degree, autolysis begins, and its rate is largely determined by the degree of acidity that develops, the optimal reaction being slightly on the acid side of neutrality ($p_H = 6.0$)

Therefore we are justified in assuming that autolysis may play its part even in living tissues if their acidity ever develops sufficiently, and Bradley is evidently of the opinion that sometimes this must happen, for he attributes to autolysis a role in many pathologic processes, and also some that are essentially physiologic Perhaps one of the best examples is furnished by the changes that follow poisoning with some of the organic halogen derivatives Evarts Graham secured evidence that the necrosis of the liver that may be produced by chloroform depends on the decomposition of the drug within the cell, liberating hydrochloric acid, which kills the cells and is followed by the rapid autolysis characteristic of acute yellow atrophy of the liver, a condition resembling the chloroform necrosis liver The war gases furnished much unwelcome support of this theory, for most of them, such as phosgen, "mustard gas" and chlorpicrin, are organic chlorin compounds which readily penetrate cells and hydrolyze to produce concentrations of acid that kill the cells and lead to rapid autolysis

Numerous atrophies, without such definite necrosis of tissues as in the foregoing examples, may also be attributed to autolysis resulting from an increased intracellular acidity from asphyxia of greater or less degree Atrophy of the mammary gland after lactation is a typical physiologic example of autolysis resulting from diminution of the blood supply Leaving the gland partly distended with milk hastens the atrophy through pressure, which cuts down the blood supply still more After parturition, the mammary glands in some women produce an excessive secretion of milk, and become tense with pressure and often painful This great initial pressure regularly leads to a diminution through atrophy so that within a few days the supply of milk diminishes automatically, and the common practice of bandaging the breasts to terminate lactation depends on a similar principle In general acidosis and in fevers, the loss in tissue mass is correlated probably with acidotic changes within the tissue cells leading to their partial autolysis The wastage in anemias seems also to be related to the decreased oxygen supplied the tissues, causing partial asphyxia, which permits autolysis to produce a new equilibrium between the mass and metabolism of the tissues of the body and their supporting blood and oxygen supply In starvation we have a striking example of slow autolysis by which a very large portion of the proteins of the body is digested and thus mobilized for the use of the more essential organs It is evident that the tissues least subject to autolysis in starvation are those whose blood supply is most assured, the brain and the heart This slow autolysis is probably related to blood supply and tissue acidosis, as in the other cases mentioned The histologic changes of starvation are in many respects similar to those of autolysis Among other observations possibly bearing on the same question are those of Hildebrandt, who found that autolysis in the functioning mammary gland is much more active than in the resting gland, and of Schlesinger, who found that autolysis was at its maximum (in rabbits) in new-born animals, decreasing rapidly in the first few months of life and that in conditions associated with emaciation the rate of autolysis varied directly with the degree of emaciation The very slow generalized atrophies of advancing age are probably also related immediately to a blood supply growing gradually less efficient, and leading to a concomitant decrease in the mass of tissues maintained in equilibrium with it These are only a few of the more obvious examples of physiologic and pathologic processes in which autolysis has a part Every loss of tissue mass that is not merely due to loss of water probably involves this mechanism It is also of corroborative significance that such observations as have been made on conditions that favor growth of cells indicate that for this function an increase in alkalinity is of importance

All the foregoing evidence indicates that autolysis is a phenomenon that is demonstrable only in pathologic conditions, or in physiologic conditions of atrophy, but does not establish that the responsible enzymes either do or do not play a part in normal protein metabolism

Current Comment

IS THE BILE CONCERNED IN PANCREATITIS?

Scientific investigation finds a justification not only in furnishing new information and consequent deductions to enrich our knowledge, but also not infrequently in dispelling long accepted fallacies or superstitions An instance of the latter has recently been offered by the studies of Mann and Giordano[1] on the anatomy and functions of the bile duct The entrance of bile into the pancreatic duct has repeatedly been charged with responsibility for the production of pancreatitis Mann and Giordano have ascertained, however, that the anatomic relation of the biliary and pancreatic ducts at the duodenum in man is such that obstruction at the exit could rarely if ever permit bile to pass toward the pancreas Furthermore, the sphincter is located at a point at which contraction will close both ducts and will not convert them into a continuous channel Even when a reflux of bile into the pancreatic duct is artificially brought about, the infiltration of the pancreas with the sterile secretion of the liver apparently fails to

1 Mann F C. and Giordano A S The Bile Factor in Pancreatitis Proc Soc Exper Biol & Med **19** 353 (April) 1922

produce acute pancreatitis Finally, bile has been found in the pancreatic duct without the corresponding occurrence of the inflammatory reaction Hence, Mann and Giordano assert that we must look elsewhere than to a bile factor for the explanation of the genesis of most cases of pancreatitis

COLOSTRUM AS A SOURCE OF IMMUNE SUBSTANCES FOR THE NEW-BORN

There are evidences of the existence of certain types of immunity in animals—and presumably also in man—very soon after birth The immense advantage of such early protection against bacterial dangers early in life is obvious How it is acquired has not yet been clearly ascertained, but there is no doubt that substances capable of conferring immunity are demonstrable in the blood of the young at a period before it is likely that a new formation of the "immune bodies" could have taken place to any considerable extent Recently the part played by the colostrum in this phenomenon has been elucidated by investigations on cattle at the Rockefeller Institute at Princeton, N J Little and Orcutt [1] found that the blood of new-born calves before ingesting colostrum did not contain agglutinins against *Bacillus abortus,* but that after the intake of agglutinin-containing colostrum the blood acquired a titer related to the agglutinin content of the colostrum Howe [2] has further shown that certain of the blood proteins are missing in the new-born until after the calves have ingested colostrum containing these globulins It now appears that the agglutinins are associated with these globulin fractions of the proteins of the blood and colostrum, and their absorption by young animals tends to support the idea of direct absorption, into the blood of the new-born, of certain protein fractions present in colostrum [3] The mode in which early immunity may be acquired thus becomes evident, and the importance of colostrum in the nutrition of the new-born is emphasized anew

ON GROWING FOREVER

A single strain of connective tissue cells isolated from a fragment, less than 1 cubic millimeter in size, of the heart of a chick embryo by Carrel at the Rockefeller Institute for Medical Research in 1912 has now passed through nearly nineteen thousand generations in vitro The growth of the tissue fragments is as rapid today as at any other time during the ten years, each piece generally doubling its volume in two days If it had been practicable to allow the tissues to multiply to their greatest possible extent, their mass today would be more than that of the sun These facts, taken from a recent account by Ebeling,[4] fortify the conclusion, to which reference has been made in THE JOURNAL on previous occasions, that such cells, like other forms of protoplasm, seem to be potentially immortal Given a suitable supply of food material, the cells continue young indefinitely, provided the environment does not become oppressive, as may be the case when the products of destructive metabolism are not properly removed or when inhibitory substances are introduced Some biologists have assumed that organisms are endowed with a limited capacity to transform energy On this hypothesis, life does not become prolonged beyond the time when the individual's quota of energy has been metabolized, and this is usually represented by the characteristic life span of the species The chick cells have now been carried through multiplications by absorption and transformation of their environmental tissue juices year after year beyond the usual limit of life of chickens Hence it may be assumed that the fibroblasts can proliferate indefinitely without any rejuvenative influences other than food Growing old involves environmental factors

1 Little R B and Orcutt Marion L. J Exper Med **35** 161 (Feb) 1922
2 Howe P E J Biol Chem **49** 115 (Nov) 1921
3 Orcutt Marion L and Howe P E The Relation Between the Accumulation of Globulins and the Appearance of Agglutinins in the Blood of New Born Calves Proc Soc Exper Biol & Med **19** 331 (April) 1922
4 Ebeling A H A Ten Year Old Strain of Fibroblasts J Exper Med **35** 755 (June) 1922

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC)

CALIFORNIA

Hospital News—Col Charles E Forbes, director of the U S Veterans' Bureau, recently toured California in search of a suitable site for a $3,500 000 tuberculosis hospital for veterans of the World War The proposed plans call for a 500 bed unit and the use of 250 acres of ground Construction work will be started within ninety days following the selection of a site——An addition will be erected at Fabiola Hospital, Oakland at an estimated cost of $200 000——It has been announced by the Sisters of Providence Hospital, Oakland, that a large site has been purchased for a new hospital building which will be erected in a few months at a cost of $700 000——A new industrial building will be erected at the state hospital at Imola and construction work has been started on the workers' cottages The installation of laundry equipment amounting to $10,000 will also be carried out——A new maternity ward will be erected at St Vincent's Maternity Home, Hollywood——The capacity of the Letterman General Hospital San Francisco, division for disabled veterans of the World War, has been enlarged from 250 to 400 beds by order from Washington, D C

CANAL ZONE

Epidemic of Fever—It was recently announced that an epidemic of malaria has developed among Canal Zone employees The Panama *Star* and the *Herald* are quoted to the effect that breeding places of mosquitoes which had been sprayed with oil the year round, are now neglected and 'there are now more mosquitoes on the isthmus than ever before since sanitation days' These same papers state that the Ancon Hospital is overcrowded with malaria patients

CONNECTICUT

Typhoid Carrier on Farm—Through the efforts of the state department of health, cooperating with the local health officers, a man working on a farm in Connecticut has been found to be a typhoid germ carrier Milk has been produced for sale on the farm in question and six cases of typhoid fever have apparently resulted from its use The finding of the health officers is the result of numerous examinations made in the laboratory of the state department of health in New Haven The carrier who had typhoid in 1895, has been prohibited from handling food of any kind for distribution

New Hospital Addition—Work will soon be started on the new buildings for the Newington Home Corporation at Hartford, a state institution for the care and treatment of

crippled children The legislature at its last session provided $200,000 for such buildings Physicians in the city of Hartford donate their services to the institution free——Ground has been cleared for the addition to the New Britain General Hospital at New Britain, which will be erected in the near future at a cost of $500 000 Final plans have been approved and the contracts will be awarded early this month, it was announced The present New Britain Hospital has a capacity of 100 beds

DELAWARE

Organization of Health Board—The board of health of Dover has been reorganized with Dr L August H Bishop as president, Dr Edwin S Anderson vice president, and Herman C Taylor, secretary-treasurer

DISTRICT OF COLUMBIA

Jewish Hospital in Washington—Architect Harry A Brandt of Washington has been retained to draw plans for the new Hebrew Hospital and Home for the Aged to be located at the capital Buildings for the institution will cost $400,000 Two three and four story buildings will be erected, the materials being brick and limestone——The general contract for a new addition to the Children's Hospital in Washington has been awarded to W E Monney of that city The building will be a one-story structure, 36 by 25 feet, of brick construction

GEORGIA

Physician Honored—The board of trustees of the University of Georgia have conferred on Dr Lamartine G Hardman, Commerce, the honorary degree of doctor of science

Marriage Relations Bill—Women of Georgia are leading in the fight in the legislature to promote the passage of the bills to come before the present session of the general assembly, especially the marriage relations bill This measure which all the state organizations of women favor, proposes that the man should be examined before a marriage license is granted but that it is not essential that the woman be subjected to examination

New Activities of Health Board—The Georgia State Board of Health entered a new field of activity for negroes July 3, when it conducted a health institute for the teachers attending the summer session of the Fort Valley High and Industrial School, Atlanta under the direction of Dr Bocker The institute was conducted by local physicians and members of the staff of the state health board in an effort to train the colored teachers in bettering health conditions in their communities Moving pictures and individual consultations were also arranged

ILLINOIS

Meeting of Tuberculosis Workers—Medical, social and financial problems of tuberculosis were discussed at a conference held in Ottawa, July 27-28, under the direction of the Illinois Tuberculosis Association More than 100 delegates, composed largely of trustees of county tuberculosis sanatoriums, field workers, public health nurses and representatives of all the associations engaged in fighting tuberculosis in sixty counties of the northeastern section of the state, attended the conference.

Big Program for Physicians—Members of the medical societies of eleven nearby counties and their families were invited to attend an open meeting and picnic at Lowell Park, Dixon, July 19, by the Ogle and Lee County medical societies The picnic was the largest gathering of medical men held in that section for many years, members of Carroll, Stephenson, Boone, Winnebago DeKalb LaSalle Bureau, Jo Daviess Kane Henry and Whiteside County medical societies attending A baseball match was held between Ogle and Lee counties Dr Julius H Hess, professor of pediatrics, University of Illinois College of Medicine, spoke on 'Newer Phases of the Nutrition of Infants," and other papers were read by Dr Malcolm L Harris professor of surgery Chicago Polyclinic, and Dr Ernest E Irons, associate professor of medicine at Rush Medical College, Chicago

Chicago

Bust of Dr Black for London University—U S Ambassador Harvey at the request of President Walter Dill Scott of Northwestern University, will present a bust of Dr Green Vardiman Black dean of Northwestern University Dental School, who died in 1915, to the London (England) University Dr Black was known as "the father of modern dentistry, and dental pathology and bacteriology"

University News—Dr Frederick Robert Zeit, for more than twenty years professor of pathology at Northwestern University Medical School at his own request has been relieved of active duty in the medical school He plans to spend next year abroad——The Pathological Museum of Northwestern University will hereafter be known as the Frederick Robert Zeit Museum of Pathology——Dr Charles B McGlumphy has been appointed assistant professor of pathology at Northwestern University medical School Dr McGlumphy has been working with Stoerk at the Franz Joseph Spital in Vienna for the past two years

INDIANA

Herb Doctor Fined—A newspaper report states that Leo M Wolf, who advertised himself as an Indian herb doctor, pleaded guilty to the charge of practicing medicine without a license when arraigned in the city court at Lafayette, July 15 Wolf was warned by the court to refrain from further attempts to practice medicine unlawfully, and was fined $35

Poster Contest for Hospital—In order to raise funds to complete the $2 000 000 building fund for the erection of the James Whitcomb Riley Memorial Hospital in Indianapolis, a state wide poster contest has been instituted, the winning posters to be used as aids to collect funds Prizes of $150 in gold and three original paintings by Howard Chandler Christy, Franklin Booth and Frederick Polley will be awarded the winners of the contest

Hospital News—Improvements costing $10,000 will be made at the Marine Hospital, Evansville——The William S Major home, Shelbyville will be remodeled for a city hospital in the near future The home, which is valued at $75,000, was bequeathed to the city for this purpose by William S Major It is estimated that the cost of maintenance will be about $8 000 yearly Provisions for the expense will be made in the tax levy for the city It is planned to open the institution to the public as a hospital by Jan 1, 1923——The campaign for $100 000 instituted for the Deaconess Hospital, Evansville, was oversubscribed $12 250——The new county hospital at Hartford City is nearing completion——An addition has been erected to the Witham Hospital at Lebanon at a cost of $20 000——A county orphans' home will be built at Lagrange The institution will cost $60,000 and will be a two-story and basement structure——Plans have been prepared for a new hospital in Julietta It will be a two-story and basement structure of brick, steel and reinforced concrete construction to cost approximately $135 000 It will be under county control——Plans are complete for a new sanatorium to be erected at Martinsville Six buildings will comprise the new institution. They will be a three-story and basement structure costing $1,250,000

IOWA

Association for the Blind—At the annual meeting of the Iowa Association for the Blind at Vinton a corporation was established to be known as the Iowa Foundation for the Blind The purpose of the foundation is chiefly to raise money to be lent to worthy young blind persons who wish to enter business for which they have been fitted but lack capital

Society News—At the recent meeting of the Iowa Clinical Society Dr Francis A Ely Des Moines was elected president Dr Charles A Waterbury, Waterloo, vice president, and Dr Russell C Doolittle, Des Moines secretary-treasurer——The Polk County Medical Society has decided to hold a three-day clinic, October 17-19, in Des Moines The five excellently equipped hospitals will furnish facilities for demonstrating the cases——Dr Edward L Rohlf, Waterloo and Dr Leonard A West Waverly were elected president and secretary respectively, of the Austin-Flint-Cedar Valley Medical Association recently——Dr John F Herrick, Ottumwa, has been elected president of the newly organized Military Surgeons Club of Iowa

Banquets for Physicians—A dinner and special meeting of the Jones County Medical Society was held in Monticello, July 17, in honor of Dr Harrison W Sigworth, Sr Anamosa Dr Sigworth is now 85 years old and has practiced medicine in Anamosa for half a century——A complimentary dinner was given to Dr Lee Wallace Dean by his former interns recently At this, the first gathering of the men associated with Dr Dean they organized electing Dr Gordan H

Harkness, Davenport, president, and Dr Clark H Lauder, Grinnell secretary ——A banquet was given given 19, in Des Moines, in honor of the seventieth birthday of Dr James Taggart Priestley of that city and to celebrate his fiftieth year of practice Dr Priestley is retiring from practice

LOUISIANA

Radio for Lepers—The Women's Auxiliary, Rollins Post of the American Legion, installed a radio outfit at the Lepers' Camp at Carville, July 4

Personal—Dr Wilbur C Smith will be the new athletic director at Tulane University, New Orleans, as well as professor of anatomy in the college of medicine ——Dr Marion S L Lombard, who for three years has been directing head of the New Orleans division of the U S Public Health Service, was recently transferred to Mobile, Ala, under the department policy to change its directing heads every three years Dr Charles L Williams, who is epidemiologic aide to the state board of health of Louisiana, will succeed Dr Lombard

MAINE

Personal—Dr Leverett Dale Bristol, Winthrop, for four years health commissioner of Augusta and formerly connected with the medical faculties of Syracuse, Minnesota, Bowdoin and Harvard universities, has been appointed professor of preventive medicine and public health in the University of Minnesota Medical School and the University of Minnesota Graduate School of Medicine He will assume his new duties September 1

Hospital News—Plans have been completed for the $45 000 addition to Madigan Memorial Hospital, Houlton ——Construction work has been commenced on the new Sisters Hospital to be erected at Waterville The building will be four stories high and H M Rourke, Lowell, Mass, is the architect of the structure ——It is reported that the Female Orphan Asylum property at Portland will be converted into a hospital Other buildings will be added to the present orphanage and a modern institution developed

MARYLAND

Investigating Board of Physicians Requested for Penal Institutions—The state board of prison control has invited Dr Llewellys F Barker, Dr J Randolph Winslow, Dr Francis Lee Dunham, Dr Anton G Rytina, and Dr Samuel Wolman, to inspect medical and hospital conditions at the Maryland Penitentiary and the Maryland House of Correction and advise the board what should be done for their improvement No complaint is made of the physicians in charge but it is believed that valuable suggestions can be made from outside and improvements which may be proposed will have the weight of authority of men of high standing in their profession

Health Department Plans Station on Eastern Shore—Establishment of a bacteriologic laboratory on the eastern shore is planned by the state department of health, to overcome delays in examination of cultures from communicable disease cases The new station, which will serve as a branch of the Baltimore laboratory, is expected to be in operation by September 1 Under present conditions specimens obtained in tuberculosis, diphtheria and typhoid cases are not returned to physicians on the lower eastern shore in less than three days A site will be sought at some point affording quick transportation to all eastern shore counties Hagerstown and Cumberland, in the western section of the state, have such laboratories

MASSACHUSETTS

Hospital News—The new east wing of the Free Hospital for Women, Brookline, was formally opened, June 16 —— New buildings will be erected at the Lawrence Memorial Hospital, Medford, in the near future, at a cost of $200 000 ——Work will be begun this summer on a new institution for the feebleminded, to be erected by the state at Belchertown ——Plans have been drawn for a new hospital building for the State Infirmary at Tewksbury It will be a brick structure costing approximately $100,000 ——The New England Baptist Hospital at Boston will erect a new addition at an estimated cost of $400,000 ——Appropriate exercises for the laying of the cornerstone of the new hospital building for Holden District Hospital, Inc, at Holden, were held, June 4

Changes in the Faculty at Harvard—Dr Edward P Richardson has been appointed assistant professor of surgery at the Medical School of Harvard University, Boston Dr Reginald Fitz, for the last two years professor of medicine, University of Minnesota, has been named associate professor of medicine Leonard T Troland, for six years instructor in psychology, has been promoted to an assistant professorship Dr Jacques Bronfenbrenner has been appointed assistant professor of bacteriology, Dr Alice Hamilton, assistant professor of industrial medicine, Dr George Shattuck, assistant professor of tropical medicine, Dr David Cheever, assistant professor of surgery, Dr Lloyd D Felton, assistant professor of preventive medicine and hygiene, and Dr James L Gamble assistant professor of pediatrics Dr James S Stone and Dr John Homans have been appointed instructors in surgery, and Drs William H Smith and Frank H Hunt, instructors in medicine

MISSOURI

Home for Dependent Children—Under enactment of the state board of charities and corrections, the state home for dependent and neglected children has been located at Carrollton The home is intended to care for all deserving homeless, neglected and dependent children of the state No defectives are to be admitted to the institution, which will be under the direction of Mrs Reed, matron, and Dr C S Austin, Carrollton physician

Legislative News—The referendum on the medical college bill (Senate Bill No 433) passed by the last legislature, has been denied in a decision by the supreme court, which upheld the finding of the circuit court declaring the names on the petitions in the Fourth Congressional District insufficient The supreme court discovered that there were only four names less than the required number The petitions from the fourth district being thrown out the entire referendum failed, because there were not enough other districts represented to meet the necessary two-thirds requirement The law which now becomes effective permits any one whom the board refuses to license to appeal to the circuit court, and the circuit court is empowered to rule on the question of what shall constitute a medical school of good standing —— A proposal has been introduced in the Constitutional Convention now in session amending the bill of rights by adding the right to administer to the sick for compensation" Another proposal makes it optional for persons to comply with any health regulations to prevent disease A third proposal authorizes the General Assembly to provide means for safeguarding the public health and welfare

NEW JERSEY

Additions to Hospitals—A three-story addition will be made to the Essex County Hospital for Contagious Disease at Soho, Belleville which has already a capacity of 379 beds ——A new nurses home will be erected at the County Tuberculosis Hospital at Allenwood, it is announced ——The board of chosen freeholders of Essex County has authorized the preparations of plans and specifications for additional hospital buildings at Overbrook, Cedar Grove

Physicians to Cooperate on Compensation Charges—The Medical Society of New Jersey will cooperate with the state department of labor in deciding a just rate of compensation for services given to put into effect the amendment to the Workmen's Compensation act (THE JOURNAL, April 15 page 1134) This measure provides for medical and surgical care in excess of the former $50 limit, and hospital care in excess of the same figure in cases in which application for such additional service has been made to the compensation bureau After a conference of the welfare committee of the medical society and the acting director of the department of labor a digest of the law and sample form of report has been issued to every member of the society The digest stipulates that a triplicate report be made by the attending physician one to be sent to the employer of the patient at the time of the accident and two to be given to the department of labor One of these will be sent to the insurance carrier To prevent overcharges for medical services the state medical society will name a physician in each compensation district to pass on the reasonableness of medical bills in dispute These physicians will confer with two other physicians, one to represent the employers and the other appointed by the department of labor Drs John Haggerty Newark, Dr John McCoy, Paterson, Dr Henry B Costill, Trenton, Dr A Haines Lippincott Camden and Dr Samuel Cosgrove, Jersey City, are physicians suggested by the state society for this work

NEW YORK

Personal—Dr George Schwartz, New York, has been appointed surgeon-in chief of the child welfare board The appointment was approved by Dr Royal S Copeland of the board of health Dr Schwartz will look after the interests of 9,000 widows and 30 000 orphans who come under the jurisdiction of the child welfare board——Dr Nathan O Ratnoff, chairman of the American Jewish Physicians' Committee, accompanied by Drs David J Kaliski and Samuel J Kopetzky, New York, sailed July 22, on the S S *Homeric* for Palestine for the purpose of beginning construction of the Medical School of the Hebrew University in Jerusalem—— Dr Harold R Mixsell and Dr George Gray Ward, Jr, New York sailed for Europe July 22——Dunlap P Penhallow, surgeon, U S P H S, New York, has been appointed surgeon in-charge of the Public Health Service Hospital at St Louis——Dr Means S Gregory, Bellevue Hospital, New York sailed for Europe recently, to study the management of mental patients in hospitals of France, Italy and Switzerland——Dr Maxwell S Blieden, Johannesburg South Africa, is in New York for research study, visiting hospitals for this purpose

New York City

Maternity Center Association Plans Nation-Wide Campaign—The Maternity Center Association is publishing a series of twelve 'Talks to Mothers," through which it is hoped to distribute authoritative information on prenatal care among 100 000 mothers in all parts of the United States In the distribution of the pamphlets, the association plans to enlist state and city health departments and nursing and public health associations closely in touch with local conditions

Alcoholic Deaths Increase—According to the records of Chief Medical Examiner Dr Charles Norris, deaths from acute alcoholism in New York this year have increased 27 per cent over 1921 and 89 per cent over 1920 The records show that eighty persons died of acute alcoholism in the first six months of 1922 These records include only those victims who died without medical attention Dr Norris thinks many others attended by private physicians have died from the same cause Poisoned liquor is largely responsible for the increase

NORTH CAROLINA

Feebleminded and the Law—The state psychiatrist and professor of abnormal psychology at the University of North Carolina, Dr Harry Crane recently announced that there are 50 000 feebleminded persons in that state alone, and that 90 per cent of the inmates of the county homes are mentally abnormal Many of these people are producing children, often worse equipped mentally than themselves, who in turn fill the state's institutions The state laws limit the period in which persons may be cared for, throwing the responsibility for the control and care of these people back on the community, which has made no provision to meet a contingency

OHIO

New Hospital Superintendent—Dr Solomon A Hatfield has been appointed superintendent of the University Hospital, Columbus, formerly a homeopathic institution This is the first step toward coordinating work of the University Hospital with the Ohio State University College of Medicine Dr Claude A Burrett, dean of the Homeopathic College, formerly was in charge of the hospital

University Honors Two Donors—Two chairs in the University of Cincinnati College of Medicine, honoring John D Rockefeller and Andrew Carnegie, donors of munificent sums to the medical school, were founded at a meeting of the board of directors, July 19 The professorship in obstetrics will be known as the John D Rockefeller Chair of Obstetrics and the professorship in biochemistry as the Andrew Carnegie Chair of Biochemistry Dr William Gillespie holds the chair of obstetrics and Albert Prescott Mathews, Ph D, is professor of biochemistry

Hospital News—A new hospital will be erected at Cincinnati which will be known as the Alms Hospital Harry Hake of Cincinnati is the architect——A new nurses' home will be erected at the Grant Hospital, Columbus, at a cost of $110 000 It will be a four-story building——A site has been purchased for a new home for the Toledo Sanatorium for the feebleminded The new institution including several cottages, will be erected at a cost of $1,000,000 The owner and physician in charge is Dr James A Belyea——The Protestant Hospital, Columbus, will be enlarged to accommodate 150 beds Money will be raised at once for the project It is estimated roughly that it will cost $300,000 A staff for the hospital will be elected in the near future

PENNSYLVANIA

Hospital News—The cornerstone of the Homestead Hospital Pittsburgh was laid July 28——A comprehensive plan for improvements and additions to various city hospitals to be completed within the next year at a cost of $1,300 000 was instituted recently in Philadelphia, when Director Furbush opened bids in his office for dormitory buildings, to be used by attendants at the Philadelphia General Hospital and the administration building at the Philadelphia Hospital for the Insane at Byberry——The contract has been awarded for the construction of the administration building at the Philadelphia Hospital for the Insane at Byberry The cost of the building is not to exceed $112 351——New buildings including a nurses home, will be erected at the Tuberculosis Hospital Pittsburgh——An addition will be built to St John's General Hospital Pittsburgh Plans call for a three-story brick building costing $65,000

Philadelphia

University to Erect Graduate School—Announcement was made July 26 of the contemplated erection by the University of Pennsylvania of a graduate school of medicine This was made public following the sale of the Medico-Chirurgical Hospital and College properties by the university Some years ago the Medico Chirurgical Hospital buildings and the adjoining properties were transferred by the Medico-Chirurgical College and Hospital to the University of Pennsylvania for the purpose of founding a graduate school of medicine At that time the erection of a new teaching hospital for this graduate school on the campus of the university was contemplated but the prohibitive building prices during the war prevented the carrying out of the original plans

RHODE ISLAND

Poliomyelitis in the State—The state board of health warned physicians July 21 that all cases of infantile paralysis must be reported both to the state board and to the health officer of the city or town wherein the case develops, forthwith on diagnosis Infantile paralysis is spreading all over the state and many cases have not been reported, Dr Byron U Richards secretary of the state board of health, states The Pawtucket Valley and the city of Providence are the present centers of the near epidemic of this disease Fifteen cases and four deaths are reported from Providence

SOUTH DAKOTA

To Erect Hospital at Minot.—The Trinity Hospital Association has recently been formed for the purpose of founding a 100 bed hospital at Minot The plans have been completed and call for a $200 000 institution A O Fonkalsrud, Ph D formerly of Fargo is the organizer of the project and will be superintendent of the new hospital

TENNESSEE

Hospital News—The contract has been let for the construction of an addition to the City View Sanatorium, Nashville at an estimated cost of $115 000——As a monument to the city and to the fraternity a general hospital will be erected at Chattanooga by the Masons of the district——The Methodists have recently purchased a site in Memphis on which they will erect a hospital the one completed in the spring having been sold to the government——A county sanatorium will be erected at Knoxville There will be a central administration building for offices and nurses' quarters Several cottages for patients will be erected in the grounds——Announcement was made, July 18, by the local antituberculosis association that more than $100 000 had been raised in a recent drive in Knoxville to build a tuberculosis hospital Work will be commenced about September 1

VIRGINIA

Open New Buildings—The two new units of the modern fireproof Marshall Lodge Memorial Hospital, Lynchburg, have been completed and were opened to the public, June 24 Guests of honor for the day were the donors whose gifts made the building possible The hospital represents an outlay of $200,000

WASHINGTON

Graduate Medical Lectureship—The sixth session of a series of lectures given at the University of Washington, Seattle, started July 17 Five lectures each were given by Dr Hobart Amory Hare professor of therapeutics, Jefferson Medical College Philadelphia, Dr John B Deaver, professor of surgery, University of Pennsylvania, and Dr Williams McKim Marriott, professor of pediatrics Washington University, St Louis Single lectures were given by Dr William Englebach, professor of medicine St Louis University School of Medicine, Dr Joseph Colt Bloodgood, professor of surgery, Johns Hopkins University, Baltimore, and Dr Walter Bradford Cannon, professor of physiology, Harvard University, Boston The lectureship was the product of cooperation between the University of Washington, the Washington State Medical Association and the King County Medical Society, and was established in 1916

WISCONSIN

Hospital News—The new addition for St. Saviour's Hospital, Portage, has been completed This includes eighteen rooms for private patients, roentgen-ray rooms and a lecture hall for the sisters——Plans have been completed for a new building for Holy Family Hospital at Manitowoc——A hospital will be erected at the state school for the deaf at Delavan in the near future at a cost of $75,000——Construction work of the $1,350,000 Wisconsin General Hospital to be erected at Portage will be forwarded at once

CANADA

Radium Institute—It is announced by Premier Taschereau, that an institute for radium treatment will be established in connection with the University of Montreal, Quebec Arrangements are now being completed to obtain 1 gm of radium at a cost of $100 000, the amount necessary to commence operations This institute will be the property of the province

Public Health News—In his report to the local board of health for the first six months of this year, Dr C J O Hastings, medical officer of health, Toronto Ont, advises that the infant mortality rate is the lowest in the city's history The rate is given at eighty per thousand births and it is estimated that if there had been a complete registration of births the actual rate would have been sixty-eight per thousand births The general mortality rate for June was 9 9 per thousand as against 8 8 per thousand for the same month last year The half yearly rate was 11 5 as against 12 0 for the first six months of 1921 It is pointed out that over half the deaths registered occurred before the age of 1 month, and it is presumed that these occurred from prenatal causes Cancer claimed the greatest number of victims, forty-eight deaths being registered from this cause in June The death rate from communicable diseases was light During June, 1922, not one birth marriage or death was recorded from the town of Port Dalhousie, Ont

Personal—Dr George D Porter, director of health services at the University of Toronto, represented the Canadian Association for the Prevention of Tuberculosis at the International Union Against Tuberculosis at Brussels, Belgium in July——Prof Herbert S Birkett, dean of the faculty of medicine, McGill University, Montreal, delivered the Semon lecture at the University of London, July 12——Dr Willard F Read Digby N S was recently elected president of the Valley Medical Society——Dr John J Mackenzie, head of the department of pathology in the University of Toronto, is seriously ill in a sanatorium near Gravenhurst Ontario——Dr T J McPhee has been appointed health officer of Namaimo, B C——Dr Charles D McCulloch has been appointed associate coroner for Prince Edward County Ont——Drs John G Fitzgerald and John W S McCullough, Toronto, recently sailed for Europe on the *Montcalm* which ran aground near Quebec City the same day and was not released until two days later, when the passengers were transferred to other steamers

University News—At a special convocation of the University of Toronto June 8 the following honorary degrees were conferred on physicians doctor of medicine Dr Huerner Mullin, past president of the Ontario Medical Association, doctor of science, Dr A D Macallum, doctor of laws, Sir Auckland C Geddes, British ambassador to the United States and former professor of anatomy at McGill University Montreal *His appointment at Washington*, D C compelled Sir Auckland C Geddes to resign from the position of president of McGill University to which he had been appointed—— The degree of LL D was conferred on Dr Clarence L Starr by McMaster University, recently——Dr Perry G Goldsmith has been appointed professor of otolaryngology in the University of Toronto, to succeed Dr David J Gibbs Wishart who resigned recently following thirty-seven years in that capacity——Dr William B Hendry has been appointed professor of obstetrics and gynecology in the University of Toronto, to succeed Dr Benjamin Watson——Dr William H F Addison has been appointed associate professor of anatomy in the University of Toronto Faculty of Medicine——Dr Robert D Defries has been appointed associate professor of hygiene in the University of Toronto and will be acting head of that department until the return of Prof John Fitzgerald from California

PHILIPPINE ISLANDS

Culion Medical Society—It is announced by the *Journal of the Philippine Islands Medical Association* that plans are being made to organize a medical society at Culion, Culion in view of the many physicians stationed there This would be the first unit of the long planned establishment of provincial branch societies of the Philippine Islands Medical Association

Invasion by Chiropractors—It is reported from Manila that numbers of chiropractors have recently arrived in the islands from the United States It is announced that they have bought full page advertisements in the local papers claiming to cure almost every ailment, and that they are attempting to have a bill submitted to the legislature regulating the practice of chiropractic and to establish a chiropractic examining board for the Philippines

Call for Aids at Culion—The following physicians mostly from the University of the Philippines and the Philippine General Hospital, have accepted positions at the leper colony, at Culion following a call for help Drs Jose M Alonzo, Jose Avellana Froilan C Eubanas, Guillermo Fernandez, Santiago Icasiano, Dalmacio Jugueta, Gavina Limcaco, Catalino Nicolas Eloy Pineda, Jose Rodriguez, Jose Samson, Filizberto Solis Felix Valasco, Bonifacio Vera and W Wade. Dr Eliza Roxas is the only woman physician at Culion Plans are being made to construct additional buildings at the colony especially for the segregation of the children of the inmates who are apparently leprosy-free

GENERAL

Thousands of Health Workers Wanted—President Vincent of the Rockefeller Foundation states that, during 1922-1923 the United States will require the services of probably 20 000 health workers At present the number under state, municipal federal and county control is 10 000 Those in the employ of nongovernmental institutions or agencies may number nearly as many more

American Relief Administration—Thirty-three physicians and surgeons, each in charge of one of the Moscow (Russia) Hospitals have united in signing a letter of thanks to Dr William D Nickelsen, medical supervisor of the Moscow district for the American Relief Administration The letter states that when on their last resources, the Moscow hospitals received supplies from the relief administration which have helped to check disease and thanks the administration for its humanitarian activities and willingness to continue the work in the future

Physicians and Druggists Protest to Revenue Bureau—As the result of a protest to the Bureau of Internal Revenue by representatives of the drug and medical professions against the needless and burdensome regulations of the Harrison Narcotic Law and the Volstead Act executive officials of the prohibition department have been instructed by the internal revenue commissioner to "get together with representatives of the drug trade and to do everything possible toward effecting more agreeable enforcement measures This was announced by the counsel for the National Association of Retail Druggists at Washington D C, in July *Vigorous* protests were lodged against the provision requiring the confirmation by the issuing director of all druggists' permits to purchase intoxicating liquor including alcohol it being pointed out that this regulation, if enforced, will invariably cause needless delay to the druggists in their efforts to serve quickly the people with whom they trade Dr George A. Knowles Philadelphia, chairman of the legislative committee of the Medical Society of the State of Pennsylvania, and Dr John N Henry, Philadelphia president of the Philadelphia

County Medical Society, represented the medical profession at the hearing

Bequests and Donations—The following bequests and donations have recently been announced

University of Chicago and Northwestern University Chicago, a total of $200,000 American University of Washington $25,000, by the will of Mrs Ann M Swift of Chicago

St Joseph's Hospital, Syracuse N Y $100,000 for a ward in memory of his wife by George Dohney In addition to this bequest, the hospital receives one ninth or about $150,000, of the residuary estate Among other institutions included in the will are St Mary's Maternity Home the Maternity Hospital and Infants Home, and the Syracuse Free Dispensary

Sheltering Arms the New York Society for Relief of Ruptured and Crippled and the Nursery and Child's Hospital, $50 000 each, Tarrytown Hospital $25 000 St Luke's Hospital, $20 000 New York Association for the Blind the Society for the Relief of the Ruptured and Crippled and the Church Mission each $65,000, by the will of Mrs Mary Kingsland

For the erection of a memorial hospital at Albion Mich, to be known as the James W Sheldon Memorial Hospital, $50,000 by the will of Mrs Leffingwell of Albion

Newton Hospital Newton, Mass, $20 000 by the will of Mrs Juliet Dike of Newton

Grant Hospital of Chicago $10 000 and the German Old People's Home $5 000 by the will of Mr Herman Paepcke of Chicago

University of Virginia Medical School Charlottesville a twenty year endowment life insurance policy for $5,000, by the 1922 graduates from all departments

Hollywood (Calif) Hospital Company $5 000, anonymously

Hygeia Camp for Tuberculosis, New Orleans, $1 400, realized from a tag day

St Joseph's Hospital, Syracuse, N Y Mount Sinai Hospital and Montefiore Hospital New York each $1,000, by the will of Emanuel Jacobson

Yale University New Haven $1 000 for study of the chemistry of the tubercle bacillus by the National Tuberculosis Association

Charleston (S C) County Tuberculosis Association Camp, twenty four beds and equipment from various residents and organizations of Charleston

Intelligence Service of the League of Nations—The International Health Board of the Rockefeller Foundation has entered into a cooperative arrangement with the Health Organization of the League of Nations whereby the board will provide a sum not to exceed $32,840 a year, for a period of five years, for the purpose of maintaining an international epidemiologic intelligence service The board will also provide a sum not to exceed $60,080 a year for three years to put into effect a scheme for the international exchange of public health personnel, to be conducted under the auspices of the health organization of the league Since the establishment, in 1921, of the intelligence service of the health organization of the League of Nations, it has conducted an international epidemiologic information service, keeping all governments informed as to the status of epidemics of typhus, intermittent fever, and cholera, which have been sweeping westward from the famine regions of Russia It has also undertaken to promote the international standardization of vaccines and serums It advises the league in matters affecting health and cooperates with the International Labor Organization in promoting industrial hygiene and sanitary conventions for the control of epidemics It is expected that, by the end of the five-year period, for which funds have been provided by the International Health Board, the epidemiologic intelligence service will have become so efficient and valuable that the various national governments will regard it as indispensable and provide funds for its further maintenance Interchange of health officials will be arranged, not only for observation but for definite periods of service, which will result in actual exchange of experience This system of exchanges will be put into effect first in Europe and may be extended to other countries throughout the world

LATIN AMERICA

Nicaraguan Physician Studying Sanitary Methods—Dr Fausto Robleto of Nicaragua, after spending one year at the Johns Hopkins University School of Hygiene and Public Health, has spent a few weeks in several counties in Alabama, studying field malaria work Dr Robleto is about to sail for his country to put to practical use the knowledge gained in this country

New Medical Society in Peru—Under the name of "Circulo Medico del Peru," there has been organized in Lima a medical society with a membership of more than 100 local physicians The following officers were appointed Honorary president, Dr Ricardo Flores, president, Dr Pablo S Mimbela, first vice president, Dr Guillermo Gastañeta, second vice president, Dr Miguel Aljovin, secretaries, Drs Francisco Graña, Ricardo Palma and Juan Voto Bernales, treasurer, Dr Oswaldo Hercelles, librarian, Dr Ramon Ribeyro, editor, Dr Hermilio Valdizan, and members, Drs J Arce, R Neuhaus, R Eyzaguirre, F Merkel, C Monge and C Carvallo

Personal—Prof Rocha Lima, chief of the Instituto Oswaldo Cruz of Rio de Janeiro, has returned from a trip abroad——The Academia Nacional de Medicina at Rio de Janeiro has conferred the Sampaio prize this year on the pharmacist, P Seabra, for his work on an electric process for producing nitric acid——The *Brazil-Medico* relates further that Dr Barbosa Vianna, was the guest of honor at a banquet, June 23, Dr Aloysio de Castro presiding, just before the latter left for Europe to be the representative of South America in the committee organized by the League of Nations to promote international intellectual relations——Our exchanges mention the arrival at Rio of Prof F Munck of Berlin who addressed the local medical society, with slides, on the diagnosis of tuberculosis

FOREIGN

Society News—The third annual conference of the Gynecologists and Obstetricians of Great Britain and Ireland was held at Liverpool, June 30-July 1——The third annual meeting of the Society for the Prevention of Venereal Disease of England was held in London, June 29, under the presidency of Lord Willoughby de Broke

New Medical Magazine—A new monthly magazine, edited by the Medical Society of Esthonia in Dorpat, containing articles of interest on medicine, surgery and public health has recently been issued The major part is written in Esthonian, with summaries in French and German Some of the articles are written in French and German

Closing of a Sanatorium on Account of Insubordination—The *Policlinico* relates that the sanatorium at Eremo di Lanzo has had to be closed as some of the inmates insisted on managing the place to suit themselves The ringleaders had to be taken away by the police The other inmates were distributed in other sanatoriums, and the establishment was closed

Tuberculin Controlled in Jugo-Slavia—The Postoffice Department has announced that American postal officials have been notified by the Jugo-Slavia government that shipments of tuberculin through the regular mails to that country are prohibited except when consigned to the minister of public hygiene the central pharmaceutical and sanitary depots and bacteriologic institutions

Scientific Congress—The Flemish scientific congresses will be held at Bruges, Belgium July 30 August 7 An exhibition of medical and surgical instruments and of scientific books will be held at the same time Many eminent scientists and physicians will deliver lectures on scientific and medical subjects, more than eighty communications and lectures being announced

Graduate Course in Crime and Punishment—The first graduate course in Crime and Punishment held the last two weeks in May at the University of Birmingham, England, has been pronounced a success The course consisted of six lectures in each of the three subjects mental defects, insanity, and crime and punishment Dr Maurice Nicoll gave two special lectures It is hoped to repeat the course next spring

Prize for Essay on Infant Mortality—The National Baby Week Council has approved the offer of the London *Daily News* of 100 guineas (about $500) for the best essay of 2,000 words dealing with the problem of the excessive mortality of boy babies Awards will also be made to the statutory maternity and infant welfare committees of the districts which effect the greatest reduction in the boy baby death rate within the next twelve months

Degree in Medical Radiology—The *Journal de Radiologie* of Paris states that the medical faculty of the University of Toulouse, France, has decided to organize a course in electrology and medical radiology and will present a diploma to the graduates Paris was the first French university to organize a course in radiology but this is the first in France to include electrology, although electroradiology is a single, indivisible study, at least during the first part of the course

The Centennial of the Brussels Medical Society—The hundred years of work of the Societe des Sciences Medicales et Naturelles of Brussels was reviewed at the centennial celebration on June 22 The president remarked that we must not smile at the errors of the past, as who knows what the future may do to our own beliefs, adding that the responsibility of the physician has been immeasurably enhanced by the immense progress of science The acting president of the society is Professor Bordet, who has contributed much to our knowledge of hormones and fixation of complement tests

Sanitary Reorganization in Spain—The government has introduced a bill for the prevention of avoidable diseases The bill provides for the compulsory notification of communicable diseases, enforcement of preventive measures, especially as regards tuberculosis, leprosy, venereal diseases malaria and infant mortality, investigation of any undue mortality, safe water supplies, creation of food and hygiene laboratories, industrial sanitation, school hygiene, and the appointment of sanitary inspectors The present public health law in Spain goes back to 1855 and it is considered out of date

British Medical Association—The ninetieth annual meeting of the British Medical Association was held in Glasgow Scotland, July 25-28 under the presidency of Dr David Drummond, Newcastle-on-Tyne Sir William Macewen, Glasgow, was elected president for the year 1922-1923, and Mr Charles P Childe, F R C S, Southsea is president-elect for the annual meeting to be held in Portsmouth in 1923 A pathologic museum was organized for the meeting in the anatomic department of the University of Glasgow A public health exhibition was also held by the Corporation of Glasgow during the session

The Chalmers Library—The library of the late Dr Albert J Chalmers formerly director of the Wellcome Tropical Research Laboratories (Sudan), has been presented by his wife to the Royal Society of Medicine The Chalmers Library was formally opened June 23 There are about 1 800 volumes in all, which includes volumes printed before the end of the fifteenth century and others in the sixteenth and seventeenth centuries There is the first printed edition of Celsus *De Re Medicina* (1478) a complete collection of the writings of Culpeper, a copy of *De Contagione* by Fracastorius (1546), Turner's *Greate Herball,* printed in Cologne in 1568 and several fine herbals including a copy of that issued by Fuchs in 1543 and Brunfels in 1546

Personal—A prize of 2,500 pesetas has been presented by the municipal authorities of Madrid to Dr A Navarro Fernandez for his report of his official visit to Sweden, Norway and Denmark to study ways and means to repress the spread of venereal diseases The authorities ordered 2 500 copies of the report to be published for distribution——The Madrid laryngologist Dr Hinojar, was tendered a banquet on his return to his native town, Soria, recently, and the medical faculty of his alma mater Zaragoza, sent a deputation with greetings——The last lecture of Prof Paul Bar of the chair of obstetrics at the Paris medical faculty was rendered an ovation by the crowds who came to bid him farewell on his retirement, having reached the age limit He had declined any formal ceremony, and devoted his lecture to summarizing the results of his own and others' research on the metabolism of fat and sugar in the pregnant——A memorial tablet to the late Prof Raphael Lepine of international fame was recently unveiled at the medical clinic at Lyons——A gold medal was presented by students and other friends to Professor Pentimalli of the chair of general pathology at the University of Naples——The fortieth anniversary of Maragliano's work in the medical faculty at Genoa was celebrated with much ceremony and the foundation of a medical library, June 25, concluding with a reception on board the *Bon Voyage* in the bay after a memorial had been unveiled to two assistants in the clinic killed during the war

Deaths in Other Countries

Dr T Zabala, a prominent psychiatrist of Buenos Aires founder and director of the Instituto Charcot——**Dr Karl Hasse,** formerly professor emeritus of anatomy at the University of Breslau, aged 81——**Dr Heinrich Albrecht,** professor of pathologic anatomy at the University of Vienna——**Dr Julio Matos,** a psychiatrist of Lisbon——**Dr G Correa Barbosa Lima** of Rio physician to the Brazilian Lloyd Line, aged 68——**Dr Guilherme Taylor March,** aged 83 whose services in the city of Nictheroy were so appreciated by the people that he was known as the "father of the poor and a tax-free house was presented to him by the populace——**Dr N A Bergenholtz** of Stockholm

CORRECTION

Schick Test Campaign—Concerning the item with this heading which appeared in the New York news July 15, we are informed that the board of health has started a city-wide campaign, that the number of physicians assigned are twelve, and the number of nurses and nurses assistants, twenty-five The personnel has been divided into two groups the work being carried out under the immediate supervision of Dr M C Schroder in Brooklyn Queens and Richmond, and of Dr A Zingher in Manhattan and the Bronx

Government Services

Hospitalization in Veterans' Bureau

Director Forbes of the U S Veterans' Bureau has submitted for the President's approval sites for two new hospitals one at San Diego or Los Angeles, Calif, and the other at Minneapolis or St Cloud, Minn, or Fargo, N D Returning from a recent western trip of inspection, he stated that he had found the administration of the Veterans' Bureau activities entirely satisfactory in Illinois Colorado, Washington, Oregon, California and Minnesota He declared that the construction of all twelve of the new hospitals for which Congress had recently appropriated $17,500 000 would be under way shortly Assistant Secretary Clifford of the Treasury also announced that during the fiscal year ending, June 30 1922 twelve new hospitals had been erected, with a capacity of 4 051 beds, located in various parts of the country, including institutions for the treatment of veterans suffering with tuberculosis, mental diseases, surgical cases and general cases The hospitals erected under the jurisdiction of the Treasury Department during this period were as follows Lake City Fla, 230 beds, Whipple Barracks, Ariz., 422 beds, Little Rock Ark 257 beds, Fort Walla, Wash, 165 beds Fort Bayard, N M 250 beds, Fort McKenzie Wyo 242 beds Bronx, N Y 650 beds, Edward Hines, Chicago 1 000 beds, Mount Alto Wash 100 beds, Dawson Springs Sanatorium Dawson Springs, Ky, 500 beds, and Excelsior Springs, Mo, 75 beds

Medical Reserve Corps Organizes Society

During the recent encampment of the medical dental veterinary and administrative officers of the M O R C Camp McClellan Ala July 12-26, a temporary organization of the medical section of the Fourth Corps Area was effected Lieut-Col Haride R Hays, Jackson, Miss, was elected president of the organization and Major L H Webb, New Orleans was elected secretary It is hoped to organize a national reserve officers association with the medical section to function in this organization during the national convention of the American Legion in New Orleans in October

Physiotherapy Course for Training of Aids

A course in physiotherapy covering a period of one year, will be offered at the Walter Reed General Hospital Washington D C beginning October 2 The subjects will include all branches of physiotherapy, and in addition lectures on general hospital subjects Credit will be given for previous training in physical education, nursing physiology and anatomy, making it possible to complete the course in six months or less Accepted candidates will be furnished quarters, rations and laundering of uniforms, in addition to $15 a month Graduates will be eligible for positions in the physiotherapy department in army hospitals, and are expected to serve one year

Hospitals for Disabled Soldiers

Locations of two new hospitals for the care and treatment of disabled ex-service men were announced this week by the U S Veterans Bureau, each to cost $1,000 000 The first, consisting of from 250 to 300 beds for mental cases, will be erected at St Cloud Minn, while the other, with a capacity of 500 beds will be constructed at Camp Custer Mich The latter will be built in lieu of the one proposed for the Great Lakes Training Station the President having requested Director Forbes to consider the Michigan location, since Illinois already has several large hospitals

Legislation for Disabled Naval Officers and Men

A measure introduced in the Senate by Senator Shortridge of California provides that all former emergency officers of the World War who served in the Naval Reserve forces and in the Marine Corps Reserve and who have been discharged from the service on account of physical disabilities shall have the same pay, privileges and allowances as regular retired officers of the Navy and the Marine Corps A similar bill for emergency officers of the Army has been before Congress for some time

Foreign Letters

PARIS

(From Our Regular Correspondent)

July 13, 1922

A Legacy of a Million Francs to the Academy of Medicine

Prince Albert of Monaco who died recently, bequeathed to the Academy of Medicine, of which he was an honorary member, the sum of one million francs A like sum was bequeathed to the Academy of Sciences

French Vital Statistics for 1921

The secretary (minister) of labor recently published the official vital statistics for France for the year 1921 It is an unfavorable report from every point of view The number of births is below that of 1920, while the number of deaths has increased, the number of marriages has also decreased The excess of births over deaths, amounting to 159 790 in 1920, or forty-one for each 10,000 inhabitants, decreased in 1921 to 117 023, or thirty for each 10,000 inhabitants

A comparison of the number of births and deaths for the years 1921, 1920 and 1913 is shown in the following table

Year	Total Population	Births	Deaths	Excess of Births
1921	39 209 766	813 396	696 373	117 023
1920	39 209,766	834 411	674 621	159 790
1913	41,476 272	790 355	731 441	58 914

The number of marriages, which reached an unusually high figure in 1920 (623,869), dropped in 1921 to 456,221, but it is still appreciably higher than the number recorded in 1913 (312,076)

An examination of the report brings out the fact that, whereas the number of living births for each 10,000 inhabitants in 1920 was 213, it fell in 1921 to 207, in 1913, it was 191 The relative proportion of deaths has risen from 172 for each 10,000 inhabitants in 1920 to 177 in 1921, reaching about the same proportion that was recorded in 1913—176 for each 10 000 inhabitants

In 1921, sixty-seven of the French departments showed an excess of births over deaths, the total amounting to 127,654, as compared with seventy-three departments in 1920 On the other hand, twenty-three departments showed an excess of deaths over births, the total amounting to 10,631, as against seventeen departments in 1920 The seven departments which, in 1920, showed an excess of births over deaths but in which the balance in 1921 was on the side of the deaths are Aube, Cher, Cote-d Or, Maine-et-Loire, Orne, Seine-et-Marne and Seine-et-Oise In the department of Isere, which in 1920 showed an excess of deaths over births the excess of births over deaths in 1921 was 292 During the year just preceding the war (1913), an excess of births over deaths amounting to a total of 86,768 for fifty-two departments was recorded, and an excess of deaths over births amounting to 27,854 was found in the thirty-eight other departments

The departments in which the excess of births over deaths, in 1921, reached the highest figures are Nord, Seine, Pas-de-Calais, Finistere, Moselle, Bas-Rhin, Seine-Inferieure Cotes-du-Nord, Morbihan, Haut-Rhin, Aisne, Meurthe-et-Moselle, Ardennes and Bouches-du-Rhone In all these departments, with the exception of Aisne Meurthe-et Moselle and Ardennes, the excess of births in 1921 was much less than in 1920

The departments in which the excess of deaths over births in 1921, was highest are Yonne, Var, Gers, Lot, Lot-et-Garonne, Maine-et-Loire Nievre, Hautes-Pyrenees, Seine-et-Oise, Puy-de-Dome, Vaucluse, Cher and Allier In all these departments, with the exception of Puy-de Dome and Allier, the excess of deaths in 1921 was greater than in 1920, three of these departments, Maine-et-Loire, Seine-et-Oise and Cher, had shown an excess of births over deaths in 1920

In 1920 (the figures for 1921 are not as yet available), Germany, exclusive of Wurttemberg and Mecklenburg showed an excess of births over deaths amounting to 623,367, in 1919, the excess of births was 282,230, and in 1918 there was an excess of deaths over births of 299,885 In England, the excess of births for 1920 was 491,781, and for 1921, 390,355

The State Treasury and the So-Called Indemnities of Hospital Physicians and Surgeons

In a great number of cities, the department for the collection of income tax has demanded a report from the administrative departments of hospitals in regard to the amount of "indemnities" received by the members of the medical and surgical staffs, with a view to subjecting them to taxation *Les hopitaux de France*, a medical journal representing the hospitals, protests against this action on the part of the government authorities, and points out that, as the term "indemnities" signifies, the sums so received have not the character of regular compensation or salaries They cannot be compared with the salaries of a professor or a government official Such sums are simply intended to indemnify the physician for the expenses of transportation, for time spent at the hospital and for care given to indigent patients

The Coming Surgical Congress

The thirty-first congress of the Association française de chirurgie will be held in Paris, October 2-7, under the chairmanship of Dr H Hartmann, professor of clinical surgery in the medical department of the University of Paris The subjects to be discussed at the congress are (1) present-day results from bone grafting, by Professor Cuneo of Paris, and Dr Rouvillois, member of the army medical corps, (2) remote results of operations affecting the trunk nerves, by Professor Leriche of Lyons, and Dr Paul Moure of Paris, and (3) technic and results of extirpation of tumors of the large intestine (rectum excepted), by Drs Abadie of Oran, and Okinczyc of Paris

Parliament in Relation to the Campaign Against Alcoholism

A delegation of the Societes antialcooliques françaises was presented recently to the minister of public health, Monsieur Paul Strauss by Monsieur Edouard Soulier, member of the chamber of deputies, and secretary of the "groupe antialcoolique' of that legislative body The delegation informed the minister that the Ligue nationale contre l'alcoolisme will celebrate its fiftieth anniversary by a "semaine antialcoolique, Oct 9-15, 1922 The representatives of the temperance movement requested the minister of public health to restore the annual appropriation of 20,000 francs (suppressed last year) with which to carry on the campaign against alcoholism The general secretary of the Ligue nationale contre l'alcoolisme also asked the minister for his support for the establishment of a home for the treatment of inebriates

Dangers of Intramuscular Injections of Arsphenamin

At the first congress of French-speaking dermatologists and syphilologists, recently held in Paris, the subject of intramuscular and subcutaneous injections of arsphenamin was discussed Some time ago, Sicard stated that, with a given amount of neo-arsphenamin, injected within a certain period of time, intramuscular injections of small doses, given daily or every two days will give a security and a therapeutic activity, together with a degree of innocuousness, that cannot be secured by weekly intravenous injections Syphilologists (Queyrat, Milian, Pinard, Leredde), who deal mainly with recent cases of syphilis, have preferred intravenous injection of large doses, whereas the neurologists are in favor of subcutaneous or intramuscular injections of small doses, repeated and extending over longer periods of time on the ground that they are more effective and that the dan-

ger element is thus to a great extent eliminated The latter form of injections has met with great favor also among general practitioners However, that the risk is really lessened has been questioned by some, and Sicard himself admits that even with this mode of treatment some cases of intolerance arise, as well as with the weekly intravenous injections, namely, when the total amount injected is very high—above 7 or 8 gm, for example Dr Petges of Bordeaux reported a case of grave apoplexy, occurring on the third day, and also several cases of nitritoid crises, which he had had an opportunity to observe following intramuscular injection of arsenicals He holds that the danger from intravenous injections is less grave because it is, as it were, *"plus loyal"* (more manifest) Accidents occur usually a short time after the injection, so that the physician is ready to combat them, whereas, in the case of intramuscular injections, accidents do not manifest themselves until late—five or six hours after the injection—and hence cannot be combated successfully Dr Emery reports having seen grave nitritoid crises *several hours after subcutaneous injection of the arsphenamins* According to Dr Balzer and Dr Marcel Pinard, intramuscular injections may be regarded as harmless in small doses only, beginning with 0 45 gm, the risk becomes the same as with intravenous injections

MADRID

(From Our Regular Correspondent)

July 1, 1922

Bone Vascularization

Professor Lexer of Freiburg recently lectured at the Madrid Medical School on the vascularization of bones He exhibited roentgenograms of bones in which he had previously injected mercury and other opaque materials He was thus enabled to follow the formation of the vascular system in the bones of several mammals and of man at different ages, in health and in several pathologic conditions that involved the bone system A feature in childhood is the marked vascularization of the metaphyses, which contributes to bone formation As growth advances, this metaphyseal vascularization decreases, being replaced by an increase in the nutrient artery, which before was barely perceptible This intense vascularization in the metaphyses explains the abundance of pathologic processes in them Professor Lexer showed a femur amputated for synovial tuberculosis of the knee, in which the enlargements in the branches of the nutrient artery suggested an extravascular leakage of the opaque fluid employed to make roentgenograms, and a histologic study of the specimen demonstrated afterward that this was all due to a tuberculous arteritis The vascular engorgement apparent in some cases of joint tuberculosis shows how useless Bier's hyperemia method must prove in joint tuberculosis

The epiphyseal vessels make their way into the bone with the interarticular ligaments and joint capsules The metaphyseal vessels go in with the capsular and periarticular ligaments, and finally, the periosteal circulation has an enormous importance because the periosteum is essential for bone regeneration When there is no periosteum in transplanted bones, connective tissue replaces bone, but this connective *tissue does not* become bone Some writers have suggested that the vascularization of bone explains by itself the formation of callus in fractures and its changes In ordinary fractures, a part of the bone is nourished by the nutrient artery, which may be more or less damaged but remains permeable, and the other end of the bone receives the metaphyseal, epiphyseal and periosteal vessels Occasionally, however, *the nutrient artery is impaired or destroyed*, and then the vascularization of the distal fragment decreases, causing the formation of pseudarthrosis, owing to the fact that the callus is invaded by connective tissue

The studies of bone vascularization made by Lexer change the modern conception of the reestablishment of bone mobility following fractures It is well known that mobilization of fractured members begins almost immediately Lexer has noted that vascularization is much more pronounced than in normal cases, during a period much longer than assumed, and that this congestion, which indicates a process of activity and regeneration reaches its highest point in the fifth week. In order that this process of bone regeneration may suffer no interference, immobilization must be continued much longer than has been the practice lately Patients must rest for six or eight months, and even longer Lexer has thus succeeded in avoiding pseudarthrosis and osteoporosis, which threatened to cause the disappearance of bone, replacing it with connective tissue Roentgenograms of bones that were losing their outline and opacity when exercised, and that recovered when allowed to rest, were the best demonstration of the correctness of Lexer's view Bier stated that the callus of fractures was formed or stimulated by hormones from the marrow Lexer denies this action by such hormones and attributes the formation of callus in fractures only to bone and periosteal vessels

In concluding he exhibited some recent patients with bone transplantations Most of them were autotransplantations, and one was a homotransplant—a transplantation of a piece of bone from another man who had died in an accident This bone piece 'took," and the roentgenograms made two years afterward disclosed an apparently normal bone Lexer has done wonders in bone transplantation, and many cripples, through his efforts have gained a possibility of life and activity that seemed lost

Disturbances in the Madrid Medical School

The Madrid Medical School has long been a focus of rivalries and jealousies that sometimes come to the surface in a most scandalous form, as happened recently An examining board made up of four professors of anatomy and having Cajal as its chairman decided to recommend Dr Villa, one of the applicants, to fill a vacancy in the chair of descriptive anatomy While they were voting several students, urged by other professors created a serious disturbance, which has been fully exploited in the newspapers and has attracted much attention The board at a previous session, had decided unanimously to recommend Villa for the vacancy, but several professors who were interested in another applicant exercised pressure on the chairman, and when it was his turn to vote, he stated that he did not think that any of the applicants were worthy to fill the vacant chair At that moment, vegetables were thrown at the other members of the board, and they were also called vile names The rioting became so violent that one of the members, Dr Porpetta, the other professor of descriptive anatomy in Madrid, was hit on the head with a cane, and his life was saved only through the action of a policeman, who fired into the air This police interference inside the medical school has displeased the partisans of university independence, although they do not trouble themselves to explain how they would have protected the lives of the board members since the school employees were unable to check the rioters The students have seen how some persons have been appointed professors through political influence, they have seen jealousies prevailing among the teaching staff, they have seen several of the professors come to blows, and, in addition, they have been flattered by certain professors, eager to use them for their personal purposes All this has brought about the greatest scandal ever recorded in the medical school in Madrid

BUCHAREST

(From Our Regular Correspondent)

July 10, 1922

The Prosecution of Quacks

The medical society's report contains a note with regard to some recent prosecutions of persons practicing without a license or engaged in the sale of quack medicines They exposed a man who posed as a brother of a Paris University professor and pretended that he was a collaborator with this distinguished phthisiologist in the invention of an inhalation cure for tuberculosis He opened a sanatorium with the financial aid of several rich merchants, and he attracted a great number of patients, so he employed two registered physicians As the results of the society's work, however, he is now in prison for extorting money from the public by false pretenses The society recently found a diploma mill in Jassy, where for a few thousand lei false diplomas were issued Luckily enough, the establishment was discovered before any of the impostors could enter practice

Fight Against Trachoma

In the newly occupied territories of Roumania, and particularly in the Banat, there are a great number of trachoma cases, chiefly among soldiers and schoolchildren This fact has induced the ministry of public welfare to employ inspectors who will visit every school as soon as possible after the regular school year begins (September 1), examining the eyes of every child for traces of the disease, which, it is hoped, will yield through the efforts of the inspectors Children suffering from trachoma will be kept from school until they have undergone an operation or had appropriate treatment The health department of the board of education will perform the necessary operation and administer treatment without charge A certificate from any reputable physician that treatment has begun will obtain readmission to the child The schoolchildren who are to undergo operation will have to wait their turn at the new trachoma hospitals in Bucharest, Cluj, and Oradia-Mare It is believed that inspection of the children will reveal a great falling off in the number of trachoma cases After the trachoma examination is completed, it is proposed to test the eyes of the schoolchildren for defective vision

When to Allow Morphin in Heart Disease

Dr Elfer, lecturer at the University of Cluj, said, at a recent meeting of the medical society of that town, that there is no reason to look on morphin in its usual therapeutic dose as a heart poison and to consider it contraindicated when a heart lesion is present He states that sudden death may occur after the use of morphin, but that this is just as unavoidable as collapse in chloroform narcosis Great care is, however, necessary when respiratory complications exist, especially if these are acute, and also in acute processes of the endocardium and myocardium Morphin can be employed without fear in purely nervous disturbances, especially in nervous angina pectoris, and in organic angina small doses are indicated The drug should never be withheld in chronic cardiac dyspnea, and in excited and sleepless patients it plays an important role as a sedative before digitalis therapy is begun, as advised by Grossmann in Germany

Lessened Mortality Among Young Children

The health department of the university of public welfare has the following to say regarding the low mortality from contagious diseases of childhood and, as a consequence, the low general death rate for the country Only one death each from diphtheria and measles, two from scarlet fever, and two from whooping cough were reported during June Since the first of the year, there have been twenty-nine deaths from diphtheria, during the corresponding period of 1921, there were 171 deaths from diphtheria Deaths from scarlet fever show a decrease of 47 per cent For whooping cough, there was a mortality of 241 in 1920, and of forty-eight in 1921, a decrease of 80 per cent The gross mortality of the four principal contagious diseases of childhood is strongly on the decrease

Public Disinfection of Houses

Experimental and bacteriologic investigations have shown that the most effective method for use in routine house disinfection is the direct application, by means of an atomizer, of formaldehyd, five parts of a 40 per cent solution to ninety-five parts water, approximately a 2 per cent solution of formaldehyd gas in water to all the surfaces of the rooms A machine devised in the laboratory throws a finely divided stream a distance of 8 feet (2.4 meters) For each 1 000 cubic feet (20 cubic meters), an amount of the solution equal to a pint (0.5 liters) of the 40 per cent formaldehyd is used Tests show 100 per cent of surface disinfection and more than 85 per cent of test objects containing various bacteria Because of the possible presence of protozoa in the houses occupied by smallpox patients, the foregoing process was for a time supplemented by the burning of a new substance, containing sulphur This was finally abandoned because of the lack of means for readily determining its efficiency, and also because of its destructive effect on certain articles of furniture

BERLIN

(From Our Regular Correspondent)

July 14, 1922

Campaign Against the Noise Evil

When Americans visit Germany, and more particularly, Prussia, they often give expression to their displeasure over the punctilious paternal control by state and municipal officials of all movements and actions of the general public On one occasion, I heard an American physician express his astonishment on observing that at the railway stations passengers are prevented by the station officials from boarding at the last moment a departing train He stated that such a thing was unheard of in the United States In response to my question as to whether there were not accidents as a result of such uncontrolled freedom of movement, he admitted that there were We may perhaps place in the same category the attempts of the authorities to reduce to a minimum disturbing noises We have police ordinances and court rulings on which the general public may base claims for protection against musical performances before open windows, against immoderate beating of carpets or against prolonged and disturbing use of machines, and many other noises of a disquieting nature Some examples of the application of such ordinances are given by the chief state's attorney Ebermayer, in the current issue of the *Deutsche medizinische Wochenschrift* For example, the proprietor of an ocean beach hotel was restrained from allowing meat bones to be chopped up in his kitchen before 8 a m, on the ground that the noise exerted a harmful effect on the health of nervous frequenters of the resort, who resided near by In another instance, the operation of circular saws in a residence section in which many brain workers resided was prohibited by the authorities From this decision, an appeal was taken to a higher court, and the judgment was reversed, it being urged by the expert witnesses that if the operation of the saws were confined to the periods between 9 a m and noon, and between 4 and 6 p m, the claim that an impairment of health resulted from the inordinate noise could not be estab-

lished and that therefore a prohibition covering all hours of the day was not justifiable It is interesting to note that in the litigation of this case it was brought out that the police power can be invoked not only when the general public is disturbed but also when certain individuals are discommoded, and that it is not of material consequence whether the persons disturbed by the noise settled in the neighborhood before or after the disturbance in question was set up By decisions of the Prussian Oberverwaltungsgericht, judgments holding that a bowling alley may not be opera ed after 10 p m and that musical renditions in a cabaret may not continue after 11 p m were confirmed Another superior court decision, on the other hand brings out certain limitations of police power a claim that certain noises are disturbing cannot be made on the ground that a siesta following a midday meal is disturbed, that the leisure hours after the day's work are broken in on, or that mental work is interfered with by music However that a given noise constitutes a continued disturbance of the night's rest, which is to be regarded as beginning at 10 o clock is a valid cause for complaint The ordinance forbidding prolonged beating of carpets was formerly considered applicable only to health resorts, but according to a decision rendered in 1915 by the Prussian supreme court such restraining ordinances are enforceable in Berlin as well

The Question as to What Medical Fees Foreigners Should Be Charged

More particularly since the outbreak of the war the reproach has been commonly heard in foreign countries that the Germans of the present day are out of tune with the rest of the world, but we have had abundant opportunity of countering with similar charges We are sensible enough to recognize the fact that the reproach may be justifiable in many respects Our critics, however, should beware lest they err by pointing out the mote in the eyes of their neighbors and failing to discover the beam in their own eye In this connection, we have, for some time past, been reproached for charging foreigners higher prices than we charge our own countrymen This applies not only to books and other scientific publications that are commonly exported but also to other German products It applies to the settlements between German physicians and foreign patients sojourning in Germany German physicians are being accused of extortion and rapacity and no attempt is made to consider the actual economic or even the psychologic basis of the situation It is quite generally recognized that the large influx of foreigners into Germany for the summer or a more pro longed stay, brings with it certain economic advantages, in that a considerable amount of foreign money is thus brought into the country On the other hand, even a mere superficial observation of existing conditions reveals that there are great disadvantages associated with the advantages The very limited supply of foodstuffs and industrial products now available in Germany is rendered still less adequate for the home-born, owing to the presence of the large number of foreigners whose demands have to be met The foreigners buy in large quantities because everything is vastly cheaper here than in their own country Thus the scarcity of provisions and other products is caused, in part, by the presence of the foreigners Another disadvantage lies in the fact that the foreigners carry about with them large quantities of the depreciated German currency, which they expend extravagantly, thus bringing about an upward tendency in the prices of all products on which the home-born are dependent If in the hotels of the large cities and the health resorts a charge for board and room of 850 marks ($1 70, at the present rate of exchange) per day is made, or if for a night's lodging even 700 marks ($1 40) is charged it will be admitted that these prices are ridiculously low as compared with the prices charged in the simplest hotels in the United States Is it any wonder that the Germans try to protect themselves, at least in part, against the aforementioned evils by charging foreigners higher prices than they do their countrymen? In the case of the learned professions, another factor of a psychologic nature enters into the case. To a physician for example, it seems degrading if he is called on to accept for a consultation given a foreigner a sum of money which, in the foreigner's native land the elevator boy would not be content to receive as a tip These are some of the reasons why the German physicians have of late been charging foreigners higher fees than formerly One would suppose that Americans, above all others, since they are reputed to take a frank and open attitude toward the realities of life and do not as a rule, allow themselves to be swayed by sentimentalities, would easily comprehend the situation After the explanations here given have been weighed carefully, the action of the executive committee of the Berlin-Brandenburg *Aerztekammer* in supplying all physicians who desire it with the following placard (printed in four different languages), to be hung up in their offices, will be better understood

To Our Foreign Patients In agreement with the conceptions of foreign physicians the physicians of Berlin charge foreign patients from countries in which there has been little or no depreciation of money values the same fees for medical services that they would pay in their home country An exception will be made in favor of such foreigners as have taken up their residence in Germany and are practicing a profession or following their calling here in this country

It is planned to publish a pamphlet which will give the fees charged in foreign lands for various types of medical service A distinction will be made as to whether the patient is in moderate circumstances or financially well situated, also as to whether the service was performed by a general practitioner a specialist or an expert of first rank In this connection, it may be well to mention the following points as brought out in the *Berliner Aerztekorrespondenz* 1 Whenever possible, before service is rendered an agreement should be reached in regard to the fee 2 All bills should be made out in German marks 3 Foreigners who have taken up their permanent residence in Germany and are earning their livelihood here receiving their income direct in the form of German marks will pay such fees as their financial circumstances will warrant The same rule will apply to members of foreign commissions for whom the government is under obligations to furnish free medical service in case of illness

Marriages

RODERICK HOFFMAN SHIPPEY to Mrs Stella B Murphy, both of Long Beach Calif, at Santa Barbara, Calif, July 3

FREDERICK HUBBELL MILLS, Major, M C U S Army, to Miss Alice Lillian Small, at Albany, N Y, July 8

WILLIAM LOWNDES MCDOUGALL, New York, to Miss Mary Alice Thomas of Griffin, Ga, June 20

JAMES EDWIN PURDY, Pittsburgh to Miss Edith Funston Ballentine of Philadelphia, June 24

LOUIS FRANCISCO ROSS to Miss Margaret Grubbs Starr, both of Richmond, Ind July 19

EDWARD JOHN GRAY to Miss Marjory Ramage, both of Vancouver, B C, Canada, July 10

JAMES BEYEL HELLER JR, to Miss Martha Silliman Cole, both of Pottsville Pa, recently

MARTIN L D MEYER, Chicago, to Miss Hortense Schroeppel of Collinsville, Ill, July 25

CHARLES W L JOHNSON to Miss Ella Blackiston Conway, both of Baltimore, July 12

Deaths

Frank Barbour Wynn ⊕ Indianapolis, Medical College of Ohio University of Cincinnati 1885, was killed in a fall on Mount Eanon near Banff Alberta Canada July 17 It is reported that the fall was the result of a cerebral hemorrhage Dr Wynn was born in Franklin County Indiana, May 28, 1860 He was graduated from De Pauw University in 1883 and received his medical degree two years later In 1886 he was made master of arts by De Pauw University From 1886 to 1888 he served as assistant physician in the Ohio Asylum for the Insane, in 1891, he served on the staff of the Northern Hospital for the Insane at Logansport Ind Following this work, he studied abroad and on his return in 1893, located in Indianapolis becoming the first city sanitarian in 1895 At this time also he became professor of medical diagnosis in Indiana University School of Medicine holding the position until the time of his death Dr Wynn was chairman of the Indianapolis Civic Commission in 1910 and was active in civic affairs in Indiana serving as chairman of the Indiana Centennial Commission from 1911 to 1916, and as president of the Indiana Historical Society He was formerly president of the Indiana Medical Society and of his local medical organization In the American Medical Association Dr Wynn served as a member of the House of Delegates in 1913 and 1914, he was secretary of the section on pathology and physiology in 1900 and chairman in 1901 The first scientific exhibit of the American Medical Association held in connection with the annual session was in the name of the Indiana State Association and was organized by and conducted under the management of Dr Wynn This exhibit was presented at Columbus Ohio in 1899 Such an exhibit has been a feature of the annual session since that time and Dr Wynn served as director up to and including 1916 He was elected Vice President of the American Medical Association at the Boston session holding the office during 1921-1922 At the time of his death he was president of the American Alpine Club During the last twenty-five years he spent many of his vacations in mountain-climbing expeditions and he held records for many attempts at scaling the mountains in Glacier National Park Dr Wynn was one of the best loved physicians in his state, and a man of broad community and scientific interests

Philip Francis Harvey ⊕ M C U S Army Denver, State University of Iowa College of Medicine Iowa City, Iowa 1864, Bellevue Hospital Medical College, New York, 1866 joined as assistant surgeon U S Army, 1868 served in the Medical Corps during the Civil War Sioux Indian Wars the Spanish-American War and during the Philippine Insurrection, professor of surgery at the National University Medical Department, Washington D C 1866-1868, retired Dec 4, 1908, member of the Association of Military Surgeons, Society of Foreign Wars and the Society of the Army of the Potomac died June 7 aged 78 Dr Harvey when chief surgeon of the Department of the Lakes in 1905, introduced for the first time in the Army a prophylactic system for the elimination of venereal disease

Isadore N Bloom ⊕ Louisville Ky , Medical School of Harvard University Boston, 1881, professor of dermatology and syphilology at the University of Louisville Medical Department, Louisville Ky , on the staffs of the Louisville City and Jewish Hospitals, served for several terms as president of the school board, member of the American Urological Association, died July 16 at the 'Norways' Sanitarium Indianapolis aged 63

Edward John Bermingham, New York, Medical Department of Columbia College New York 1873, founder and superintendent of the New York Throat Nose and Lung Hospital, former president of the New York Academy of Medicine and of the Society of Medical Jurisprudence, died July 15, aged 69, from diabetes and heart disease

William H Monday, Terrell, Texas, Medical College of Louisiana, New Orleans 1871, member of the State Medical Association of Texas, Civil War Veteran, for several years president of the school board, at one time president of the Kaufman County Medical Association, died suddenly, July 16, aged 79

Edwin R Rasely ⊕ Uniontown Pa , Medico-Chirurgical College of Philadelphia 1891 member of the American Roentgen Ray Society, was found dead in his photographic dark room, accidentally electrocuted July 12, aged 55

⊕ Indicates Fellow of the American Medical Association

Frank W Garrett, Liberty Center, Ind , Medical Department Butler University Indianapolis 1882, member of the Indiana State Medical Association, formerly a druggist, at one time postmaster and health officer of Liberty Center, died July 17, aged 66, from carcinoma

Abner S Crocker, Oklahoma City, Medical Department, University of Louisville 1890 member of the Oklahoma State Medical Association, died at the State University Hospital July 13 aged 54 from a bullet wound in the lung, having accidentally shot himself

Joseph Michael Gallen ⊕ Columbus, Ohio, Ohio Medical University Columbus 1907 formerly instructor of surgery at the Ohio State University College of Medicine, on the staff of St Francis Hospital, died July 11, aged 37, from chronic nephritis

Aaron Hendrick Connett, Great Bend, Kan , College of Physicians and Surgeons Keokuk Iowa, 1878, member of the Kansas Medical Society for several years county coroner health officer and physician, died, July 17, aged 72, from paresis

William P Norris, Salem Va , Louisville Medical College Louisville Ky 1892 member of the Medical Society of Virginia for several years county coroner and health officer of Salem died suddenly, July 23 aged 55, from heart disease

Thomas Venable Bond, Fort Steilacoom Wash , University of Virginia Department of Medicine Charlottesville Va 1905 member of the Washington State Medical Association died June 23 aged 43 from tuberculosis

Hyman Shlappin, Newark N J University and Bellevue Hospital Medical College New York 1910, member of the Medical Society of New Jersey on the staff of the Newark Beth Israel Hospital died July 16 aged 38

William Albert Gartner ⊕ Troy Kan Ensworth Medical College St Joseph Mo 1914 died June 30 at the Missouri Methodist Hospital Association St Joseph, Mo, aged 38 from septicemia following an insect bite

Peter White Cody, Boston, College of Physicians and Surgeons Keokuk Iowa 1882, member of the Massachusetts Medical Society died July 15 aged 64, from the effects of a fall received some time ago

John William McKone, Lawler Iowa University of Iowa College of Medicine Iowa City Iowa 1896 member of the Iowa State Medical Society, died July 16, aged 48, from chronic interstitial nephritis

Louis C Swartzlander, Omaha John A Creighton Medical College Omaha 1906 member of the Nebraska State Medical Association, died suddenly, July 17, aged 39, from heart disease

Henry Green, Yakima Wash (licensed Washington, 1888) Confederate veteran formerly member of the state legislature died July 10 aged 99 from senility

John H Hussey, Eddyville Ky Medical Department, University of Tennessee 1883 member of the Kentucky State Medical Association, died, July 14 aged 61

Lewis Moody, Bremerton Wash Medical Department, University of Illinois Chicago 1900, died May 9, aged 41, from cerebral hemorrhage

George Lewis Day ⊕ Lone Tree Iowa, State University of Iowa College of Medicine Iowa City Iowa, 1895, died suddenly July 20 aged 51

Britton O Watkins, Kingston Tenn Medical Department University of Tennessee 1891 died June 30, aged 68, from pulmonary tuberculosis

Craig Worth ⊕ Mapleton Iowa University of Missouri School of Medicine Columbia Mo, 1906, died, July 16, at Independence aged 42

Samuel D Geissinger, Elmira N Y , Jefferson Medical College Philadelphia, 1877, died, March 14 aged 73, from heart disease

Annetta Kratz, Danboro, Pa Woman's Medical College of Pennsylvania, Philadelphia 1871 died May 28 aged 75

Isaac Newton Wear, Los Angeles (licensed Illinois years of practice), died July 9, aged 70 from heart disease.

Eugenia Julia Reinhardt, Denver, Denver Homeopathic College 1897 died June 30 aged 55 from ascites

W D Penn, Gulfport Miss (licensed years of practice), died June 14 aged 82 from senility

Elmer Elsworth Cowdrick, Cleveland Chicago Medical College 1886 died, June 22, aged 60

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

ETO-SO-ERC

Intravenous Creosote Medication of T M Berry

A circular, signed T M Berry, M D, New Orleans, recommends the intravenous use of "Eto-So-Erc" ("Creosote" spelled backward) for various conditions It reads in part

Dear Doctor From my past ten years experience of intravenous medication I feel justified in calling your attention to the potential effects of Eto So Erc intravenously Eto So Erc is a highly purified form of Beechwood creosote especially prepared for intravenous administration It comes in direct contact and becomes fixed to the pathologic tissue and bacteria

The antiseptic effects are positive

The beneficial effects are rapid and recognized by the patient

The administration is safe and accurate as to dosage

There is no reaction or alarming symptoms

Recommended in the treatment of All stages of pulmonary tuberculosis influenza pneumonia acute and chronic bronchitis pulmonary gangrene or any pulmonary inflammation where you feel a pulmonary antiseptic is desired

Guttmann states that Tubercle Bacilli are destroyed by blood containing one part of creosote in 2 000 and even one half that proportion arrests their development *20 c c* of Eto So Erc gives you *1 to 2000 in a 150 lb man*

Creosote is credited with being of some value in tuberculous infections when taken orally, although even on this point clinical opinion is divided The benefits, according to Sollmann, are to be seen only in early cases of tuberculosis, if the use is long continued and if it does not cause gastrointestinal disturbances It is most probable that any benefits derived may be referred to the local effect on the alimentary canal and on the bronchitis and to the antipyretic action In such cases, the benefits would not be obtained by intravenous injections of creosote such as in the proprietary Eto-So-Erc" In fact, the administration of creosote by other ways than mouth is said to be very much less efficacious (Cushny, 'Pharmacology and Therapeutics")

The argument advanced for 'Eto-So-Erc" in respiratory infections is that "Tubercle Bacilli are destroyed by blood containing one part of creosote in 2000 and even one-half that proportion arrests their development 20 cc of Eto-So-Erc gives you 1 to 2000 in a 150 lb man" This assertion is misleading because the tubercle bacilli in the lungs are imbedded in the tissues and therefore are inaccessible to the creosote As the Council on Pharmacy and Chemistry pointed out in 1915, there is no evidence that creosote excreted by the lungs is in sufficient quantities to have any germicidal action

The formula for Eto-So-Erc is not given, although it is claimed that each 160 m (10 c c) ampoule contains 10 m of creosote, of what the remaining 93 per cent is composed we are not told

To give creosote, a readily absorbed drug, intravenously is irrational and unscientific The claim that "creosote comes in direct contact and becomes fixed to the pathologic tissue and bacteria" and therefore Eto-So-Erc is to be used in all pulmonary diseases, is simply playing on credulity

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International Health Drive—At the session of the National Conference of Social Work recently held at Providence, R I, Dr George E Vincent, president of the Rockefeller Foundation, in an address stated that the health committee of the League of Nations, the League of Red Cross Societies, international scientific bodies and the International Health Board are in the field Scientific research workers are in constant communication in many national centers, and governments are sending attaches of hygiene into one another's territories Vital statistics on an international scale are being reported more accurately Prompt notification of epidemics is being facilitated, and outposts against plague and other diseases are being stationed and supported.

Correspondence

"THE PLACE OF VERSION IN OBSTETRICS"

To the Editor —I was rather surprised that THE JOURNAL should publish such an unfair criticism of a book as it did of 'The Place of Version in Obstetrics" by Dr Irving W Potter (THE JOURNAL, July 1, 1922, p 64)

First the critic's bias was so great and his erudition so incomplete that he lost sight of the real aims of the book, namely, a more extended use of version and an improved technic He assumes, with the assurance and omniscience of a deity, that Potter is left handed and that that is why he uses the left hand in delivery, while, as a matter of fact, he is right handed in all his work, but has found that the left hand is the best hand with which to make all deliveries when version is employed

The illustrations (Figs 36, 38 and 39) "show awkwardness" *only to the inexperienced eye and to the casuist who* is trying to multiply his own objections in something he thinks he understands while in reality the subject is evidently entirely new to him If your critic ever saw Dr Potter make a version or will try himself to make one as directed by Potter, he will find that the position of the hands, as represented in the cuts, is not awkward, but the most natural one to take and the one Potter chose after making hundreds of versions by the right and the left hand

Again, any man who has made versions knows that the water should be retained as long as possible to facilitate the maneuver, and by breaking the membranes, high up, this is accomplished Therefore, Levret's insistence on rupturing the membranes, low down, at the os is not sustained in the minds of all practical obstetricians' who have learned their obstetrics at the bedside and not at the library table

The stretching or ironing out of the vagina, although practiced by Edgar and other men, is not the technic employed by Potter, and he has called special attention to it because, in his elective version, the vaginal outlet must be dilated thoroughly, under deep anesthesia, before the delivery can be undertaken

So far as bringing down one leg or two legs, Potter has practiced both methods many, many times, and finds, mechanically, that the two legs are the best dilating wedge, notwithstanding Mme du Tertre's recommendations in 1677"

Figure 15 is not a manifest error of art," although the picture, for teaching purposes, is a little exaggerated It has never been shown in any book on midwifery, nor has your critic ever seen such an illustration, and yet the picture is taken from life, and shows that rotation always takes place from right to left or from left to right according to the position of the child, and is shown in the plate and Plate 17, as the body descends

His criticism as to the indications for version, which are not defined by Potter, is fairly well taken, and in this matter honest men can differ in their practice and conclusions Potter never uses forceps except on the after-coming head, and until it is proved, in the hands of other men, that his practice is more dangerous to mother and child, the question must be left in statu quo

Dr Potter was honest when he said he never broke a bone but once in a living child He does not claim that he does not have intracranial injuries, but he believes that they are less in his practice than in that of other men, a point that again must be proved by further reports

Because a book is small and simply a reprint of journal papers is no reason it is not worth reviewing, and particularly, since it contains a practice, although revolutionary, that is gradually being accepted, in a more or less modified way, by many of the best obstetricians in the country Dr

Potter is certainly teaching a new method in the delivery of the shoulder and arm and many other points which are brought out in the text of his book, if read by an open minded, qualified, practical obstetrician

No matter how much we may differ from Potter in his general use of version, he has demonstrated that version is not as dangerous as we were taught to believe, and should be more often employed, and secondly, the men who are practicing this method say that it is a great advance over any other method previously practiced by them, even if it be something old, as is your critic's contention A just and fair criticism of a book is what all fair minded men look for, and especially in an association journal

The history of version was compiled by one of the most thorough and reputable medical abstract companies in this country, and surely their facilities and combined intelligence ranks with your erudite critic, and they would not have slighted any great authors in the past to make it appear that Potter "de novo originated his present ideas of podalic version"

H E HAYD, M D, Buffalo

[The letter of Dr Hayd was referred to the reviewer of the book He replies]

Since reading Dr Hayd's comments on the review of Potter's book on "Version," I have reread the volume in an endeavor to see the text in the light he tries to cast on it but my views are unchanged by the critical inspection If any misstatements of fact had crept in I would gladly correct them, but even if corrections were possible, the basic views expressed would be unaltered—namely, it is dangerous teaching that it is as safe routinely to deliver all women by operation as to await physiologic labor As clearly as I can see from his meager statistics, he had 0 78 per cent of his patients spontaneously delivered it is not definitely stated, but we are left to surmise that these nine women delivered themselves before his arrival 82 per cent. of his 1,130 cases in his last report were delivered by version, and if version was impossible, then 8 8 per cent had cesarean sections some 7 per cent more had some other operative procedure employed for extraction, and why these last eighty-three patients were not subjected to cesarean sections is not stated any more than the noteworthy absence of indications for his sections

If Dr Potter had written a book whose purpose was to advocate a more frequent resort to version in contrast to high forceps and cesarean sections done for minor obstetric complications there could be no criticism Under such circumstances, the aim of the book would be appropriately "a more extended use of version", but an author, as well as his proponents, has poor logic when it is defended that parturient women should be treated in one of three ways—spontaneous labor for those who terminate their labors before the arrival of the attendant, version in the vast majority, and cesarean section for those in whom version is considered contraindicated As Dr Potter makes a routine practice of operative delivery, he cannot offer indications for his versions or his sections other than the conservation of his time and strength, and incidentally to shorten the labors Even if indications were offered, we would hold them specious for any obstetrician to have a full 99 per cent of operative deliveries

To quote Dr Hayd "Until it is proved, in the hands of other men, that his practice is more dangerous to mother and child the question must be left in statu quo" In Professor Rucker's report on his experience with Potter's version in the *American Journal of Obstetrics and Gynecology* (1 574 [March] 1921), the author is enthusiastic for the method yet his fetal mortality was from 12 1 to 17 55 per cent according to "group"—a gross mortality of 14 5 per cent Professor Rucker is the first Potter enthusiast to report his results—and is still enthusiastic when his fetal mortality is from two to three times the normal experience If this is any criterion, we may only feel that the method has been tried and found wanting in safety or rationality

To answer all of Dr Hayd's comments would take much space especially as his strictures are often not compatible with scientific obstetric thought however, with the limited space available I offer these concrete statements of fact

1 The historical data are correct so far as they go There is a woful absence of facts which associate the steps in the so called Potter's version with the originators of those steps which leaves the implication that Potter originated them de novo There is not one detail of his procedure which could not have been found in the literature

2 It is so self evident that resistance of the soft parts should be overcome that it is common experience of obstetricians that they have ironed out the perineum these many years The necessity is so self evident that to mention it is trite

3 The dictum of one man who has a peculiar facility with one hand cannot refute that common experience dictates that a sane choice of the hand is dependent on the position of the child, or some particular exigency of the case The ready success of version is dependent on so many factors (presentation position indications and anatomic factors) that it is irrational to expect that one fixed, set rule of conduct will fit every condition

4 Peu in 1694 practiced entering the hand between membranes and uterus which Potter implies is his method Any elementary student knows that some interval will elapse between the rupture of the membranes and retraction of the uterus—during which interval, even an hour or two, version is readily possible To argue that Peu's method counts for a better version than when the rupture of the membrane takes place at the internal os, Levret's teaching, is puerility To smear the vaginal contamination, which inevitably must occur from the internal hand to the mucosa of the uterus is not safe obstetrics

5 Pare recommended bringing down both legs Common sense shows that a full breech will secure more dilatation than will one leg brought down, and much more than when both are brought down, essentially, their relationship is 1 ¾ ½ in dilating surface We concede that when rapid extraction is demanded better traction may be secured by pulling on both legs than on one

6 Version is completed with the turning thereafter, if no indication exists the delivery may be left to Nature, or at most manual aid may be employed On the other hand when delivery is imperatively demanded, rapid extraction should be employed As Dr Potter operates on normal women, 'manual aid is his method There is nothing new to this

7 Every operator has found occasion for delivering the anterior arm first Common experience indicates that the posterior arm in the majority of instances may more easily and quickly be brought down than the anterior This is so true that practically every authority recommends it, if the anterior arm may not easily be reached, the shoulders should be rotated so that the anterior arm becomes posterior, delivering it as such Dr Potter, therefore has not originated a detail by bringing down the anterior arm as such, he merely attempts to contravene common experience by being different

8 Figure 15 depicts a distinctly abnormal breech mechanism which is observed occasionally especially in sacral posterior positions, this conforms to the general principles of certain occiput posterior cases forecoming head This is due to some disturbance of pelvic configuration (of the bones or pelvic

floor), and more commonly to factors which determine the rapid descent of the posterior hip, with its anterior rotation again comparable to anterior rotation of the occiput posterior Later, such rotation determines that the back shall be posterior before the shoulders enter the brim In operative cases, if the attendant is not fully conversant with abnormal mechanisms, the pulling on the posterior leg will produce this maneuver *This accident may inevitably occur, but almost* invariably it is a distinct *error of art* As most authorities attempt to depict things as they should be, this illustration is largely new however, in Ramsbotham's book, page 250, Figure 119, fifth American edition, 1849, this position is portrayed in sagittal view, the caption is different There would be no issue on this score if Dr Potter had noted that the illustration showed an abnormal rotation

9 It is refreshing to secure the admission, which we trust Dr Hayd gives authoritatively, that the historical data were supplied by an "abstract company" Is this the explanation of the absence of those grammatical errors in the history that are present in the clinic part of the book? In any event, the explanation does not make the compilation better, and does not excuse the author from advancing it as his own

10 Dr Potter's statement that he only once broke a bone of a living baby is based on such empiric absence of observation that it is misleading If Dr Hayd will read Dr Potter's closing remarks in the *American Journal of Obstetrics and Gynecology* (**1** 642 [March] 1921), he will see the significance of my declaration He there states, "Nor have I X-rayed or made inquiries to know whether there were fractures because I do not think it necessary I know there were none" Injuries and fractures have had a definite incidence in both primary breech extraction and that of secondary breech (after version) in the hands of every obstetric expert who has lived We must therefore discredit the statement of Dr Potter, which may come from lack of routine observation Dr Potter would possibly have a definite incidence of fractures to report if a thorough routine examination were made of all his new-born babies

In conclusion, we may but reiterate what was stated in the review "The teaching, as given in this book, is dangerous and reprehensible, a rational, sane, obstetric thought is imperatively needed if conservation of mother and child are to be realized" An obstetric operative furor does irreparable harm by destroying lives needlessly

[NOTE—While it is not customary to publish responses to book reviews, and the reviewer's reply, space is given in this instance because of the importance of checking this radical trend in obstetrics]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted on request

MODIFICATION OF ANTIRABIC VACCINE

To the Editor —Please inform me as to the opinion of the best authorities with regard to the therapeutic efficiency (or prophylactic) of the Cummings Rabies Vaccine compared with that of the regular Pasteur antirabic vaccine which is given in doses of increasing potency

B S PENN M D Humboldt, Tenn

ANSWER—In the series of special articles on biologic therapy published under the auspices of the Council on Pharmacy and Chemistry, A M Stimson (THE JOURNAL, Jan 22, 1921, p 241) wrote

The further treatment of the fixed virus in order to prepare the vaccine may proceed according to several recognized methods, the intent of which is either to accomplish graduation of the dosage, or to secure a further attenuation of virulence, to preserve against rapid deterioration, or merely to provide the material in a form convenient for use Of these methods the most commonly employed are emulsification of the virus and graded dilution in salt solution, reduction of virulence by slow desiccation for definite periods, followed by preservation in glycerin, removal of diffusible substances by dialysis [the Cummings method], rapid desiccation in a frozen condition, and treatment by various chemicals, notably by phenol The advocates of each of these methods can adduce arguments as to the convenience, economy or suitability for some special purpose of the method which they employ, but it is believed that there is no acceptable evidence to show that any one method is preeminently more efficacious in conferring immunity to rabies than others Some methods have, however, been subjected to more extensive practical application than others

Whatever the method employed, the final substance to be used for injection consists of a liquid suspension of more or less modified fixed virus, and this is administered in a series of subcutaneous injections, given for a period of time which may vary according to the method used, up to a maximum of three weeks It has been found possible, and is theoretically advantageous, to modify the schema of injections employed originally by Pasteur in using the virus attenuated by slow desiccation For example, the plan of injections now employed in the Hygienic Laboratory, U S Public Health Service, eliminates the use of long dried and presumably inert material, while retaining roughly Pasteur's idea of administering a succession of courses of injections of increasing virulence This schema is admittedly arbitrary, and is supported more by the evidence of long usage than by strictly scientific considerations"

ENURESIS

To the Editor —Kindly send me any information you have as to the treatment of bed wetting in children and young adults I would appreciate greatly some references for this condition or remedies for it.

G N PEASE M D Portland, Ore

ANSWER—A reply to this inquiry appeared in THE JOURNAL, Jan 29, 1921, page 329

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA Juneau Sept 5 Sec Dr Harry C DeVighne Juneau
MASSACHUSETTS Boston, Sept 12 11 Sec Dr Samuel H Calderwood State House, Boston
NEW HAMPSHIRE Concord, Sept 7 8 Sec Dr Charles Duncan Concord

Kansas June Examination

Dr Albert S Ross, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination held at Kansas City, June 20-21, 1922 The examination covered 10 subjects and included 100 questions An average of 75 per cent was required to pass Of the 24 candidates examined, 22 passed and 2 failed Twenty-two candidates were licensed by reciprocity One candidate was licensed on government credentials The following colleges were represented

College	Year Grad	Per Cent
PASSED		
Northwestern University	(1922)*	86
Rush Medical College	(1922)*	86 4
University of Kansas	(1922)	81 5, 81 7, 83, 83 6 83 6 83 8 84 2 84 5 84 6 84 6 84 8, 85 6 85 7, 85 7 86 7 86 7 87 5
Harvard University	(1916)	83
Washington University	(1920) 83 (1921)	84 6
FAILED		
Meharry Medical College	(1921)	65 9 71

College	Year Grad	Reciprocity with
LICENSED BY RECIPROCITY		
Chicago College of Medicine and Surgery	(1913)	Iowa
Hahnemann Medical Coll and Hosp of Chicago	(1906)	Illinois
Loyola University (1916) Missouri	(1917) (1919)	Illinois
Northwestern University	(1917), (1921)	Illinois
University of Louisville Medical Dept	(1922)	Kentucky
Tulane University	(1914)	Missouri
Barnes Medical College	(1904)	Iowa
Kansas City Medical College	(1883)	Missouri
Marion Sims College of Medicine	(1897)	Missouri
St Louis University School of Medicine	(1921 2)	Missouri
Washington University	(1918)	Missouri
Creighton University	(1921)	Nebraska
University of Nebraska	(1920)	Nebraska

University of Oklahoma	(1921)	Oklahoma
Jefferson Medical College	(1921)	Missouri
Vanderbilt University	(1921)	Tennessee
Fort Worth School of Medicine	(1918)	Texas
University of Toronto	(1908)	N Dakota

College	ENDORSEMENT OF CREDENTIALS	Year Grad	Endorsement with
Kansas City Medical College		(1898)	U S Army

* These candidates have finished the medical course and will obtain the M D degree after they have completed a year's internship in a hospital

Delaware June Examination

Dr P S Downs, secretary, Delaware State Board of Medical Examiners, reports the oral, written and practical examination held at Wilmington, June 20 1922 The examination covered 10 subjects and included 100 questions An average of 75 per cent was required to pass Nine candidates were examined all of whom passed Two candidates were licensed by reciprocity One candidate, a graduate of the University of London in 1919, was licensed by special examination Jan 14, 1922 The following colleges were represented

College	PASSED	Year Grad	Number Licensed
Johns Hopkins University		(1922)	1
University of Maryland		(1920)	1
Jefferson Medical College		(1921)	1
Temple University		(1921)	3
University of Pennsylvania		(1922)	3

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
University of Maryland		(1919)	Maryland
University of Pennsylvania		(1919)	Hawaii

Louisiana June Examination

Dr Roy B Harrison secretary Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, June 8-10 1922 The examination covered 12 subjects and included 100 questions An average of 75 per cent was required to pass Of the 46 candidates examined 43 passed and 3 failed Four candidates were licensed by reciprocity The following colleges were represented

College	PASSED	Year Grad	Per Cent
Tulane University	(1921) 86 86 6 87 91 4 (1922) 77 8 79 3 79 8 80 3 82 3 * 89 7 83 3 83 4 83 5 83 6 83 9 84 2 84 5 84 8 85 1 85 2 85 5 86 3 86 4 86 4 87 4 87 5 87 7 88 88 88 1 88 4 88 6 89 2 89 2 89 4 89 8 90 1 90 2 90 4 91 3 93 3		
St Louis University School of Medicine		(1921)	85 9
University of Naples		(1915) †	85 7
	FAILED		
Meharry Medical College	(1915) 63 (1917) 53 3	(1921)	59 5

College	LICENSED BY RECIPROCITY	Year Grad	Reciprocity with
Atlanta School of Medicine		(1906)	Georgia
Ruth Medical College		(1909)	California
Tulane University		(1900)	Texas
University of Tennessee		(1919)	Mississippi

Temporary licenses granted until completion of citizenship
† Graduation not verified

Church Missionary Society—At a recent exhibition of the hospital facilities in lands far from civilization held in London England it was announced that the society now has thirty seven mission hospitals five of which have medical schools attached to them There are leper establishments in connection with four of these hospitals eight are equipped with modern roentgen-ray apparatus Physicians are badly needed to continue the work The hospital at Mengo Uganda British East Africa, contains 212 beds with separate blocks for Europeans There is a large dispensary pathologic laboratory, operating room and roentgen-ray room A medical school for twenty-four students adjoins the building A new maternity training school was recently opened and twenty young Baganda women are trained in midwifery yearly and receive a government diploma after examination as certified midwives The Pakhoi Medical Mission Compound is situated 500 miles from Hong Kong China and has 210 beds, including a leper asylum containing 160 lepers who are segregated and treated with chaulmoogra oil One trained nurse (the only white trained nurse) is in charge of this institution, there being no physician there at present Models of the Peshawar Medical Mission the Cairo Mission Hospital and the Church Missionary Society's hospital at Kampele, Uganda, among others, were on view at the exposition

Book Notices

DIE WASSERMANNSCHE REAKTION MIT BESONDERER BERUCKSICHTIGUNG IHRER KLINISCHEN VERWERTBARKEIT Von Dr Harald Boas Privatdozent der Universität Mit einem Vorwort von Geh Med Rat Prof A Wassermann Third edition Paper Price 36 marks Pp 176 Berlin S Karger 1922

This follows the lines of former editions While there have not been many changes or additions, yet the extended personal experience of Boas with the Wassermann test has enabled him to draw valuable conclusions concerning the test After a rather comprehensive historical review, Boas discusses the technic and details of the test, and describes many of the numerous modifications He believes the simple alcoholic extract of human or beef heart the most reliable antigen although he inclines to the belief that the cholesterolized antigen may be of value if properly controlled to rule out false positive findings For the sake of completeness he discusses many of the tests which have been advanced as substitutes for the Wassermann test and believes that the Sachs Georgi and Meinicke tests are the best of these The special merit of this little book is the discussion, based on the personal experience of the author of the presence or absence of positive results in the various types of syphilis From the standpoint of interpretation, Boas believes that a positive test should be regarded simply as a sign or symptom of syphilis and that treatment should be guided by the presence or absence of positive tests However, he warns against placing any reliance on a negative test, except when this appears after a vigorous course of treatment In other words a negative test cannot be understood as excluding syphilis In the incubation period or in the initial stage of syphilis a positive Wassermann test does not usually appear until shortly before the appearance of the secondary symptoms In the secondary as well as in the tertiary stages, this test is almost constantly positive in the untreated cases, but may be negative in those cases in which early treatment has been given In latent syphilis the results are variable, Boas inclining to the view that only the positive reactions have any diagnostic value The same situation is found in tabes and in general paralysis although the reaction tends to be positive in a greater percentage of cases than in the latent types of syphilis As to the influence of treatment on the Wassermann test Boas states that most cases gradually assume a negative condition under protracted treatment, but that treatment may in some cases render a negative case positive or strengthen the positivity of the reaction Further, some cases assume a 'Wassermann-fast' state under certain lines of treatment so that such treatment must be replaced by other measures

SURGICAL AND MECHANICAL TREATMENT OF PERIPHERAL NERVES By Byron Stookey A M M D Assistant Surgeon New York Neurological Institute With a Chapter on Nerve Degeneration and Regeneration by G Carl Huber M D Professor of Anatomy and Director of Anatomical Laboratories University of Michigan Cloth Price $10 net Pp 273 with 275 illustrations Philadelphia W B Saunders Company 1922

This is the first real effort that has been made to place the surgery of the peripheral nerves on the same plane with that of the brain and spinal cord It is a thoroughly complete work being based primarily on the fundamentals of anatomy, embryology and physiology On every point the evidence has been formed from the best and most recent experimental work and the conclusions have been drawn only after a careful analysis of the literature The anatomy of peripheral nerves is dealt with in minute detail particular stress being laid on their embryologic development This is followed by a chapter on nerve degeneration and regeneration by G Carl Huber in which the progress of the experimental work is reviewed completely and clearly and so fairly that the reader can scarcely fail to secure a clear understanding of this field The methods of nerve repair are ushered in by criticism of the old treatments and methods, after which the author elaborates in detail on the technic of nerve suture, nerve crossing and nerve transplantation The methods of bridging a nerve gap, perhaps the most important subject

in nerve surgery from the practical point of view, are then reviewed and carefully analyzed One is impressed with the vast amount of painstaking work that has been done on tubulization by Huber, whose researches since 1895 have so completely altered surgical methods along that line The clinical aspect of the subject is then presented in all its phases, with the utmost care as to minute details As stated in the author's preface, the various syndromes, motor electrical and sensory, so elaborately treated by Tinel and Anasthasio-Benisty, are not particularly emphasized, the great stress being laid on surgical and mechanical procedures suitable to the treatment of peripheral nerve injuries Following an introductory chapter on indications for operation and the time to operate, the various nerves are taken up separately, and a most thorough analysis made of the various means of repairing injuries to them One is constantly impressed with the close adherence to the experimental side and its bearing on the conclusions drawn The facial nerve, the brachial plexus, the musculospiral, musculocutaneous, median, ulnar, lumbosacral plexus and sciatic nerves are dealt with in order, and in connection with each the normal anatomy, development, anomalies, types of injuries and detailed phases of the operative and mechanical treatment are beautifully presented The remainder of the work is devoted to a brief discussion of the nerves less frequently injured, such as the recurrent laryngeal, spinal accessory, long thoracic, subscapular, anterior crural, obturator and gluteal, followed by a treatise on nerve tumors causalgia and amputation neuromas The author deserves unlimited credit for this careful reorganization of the subject of peripheral nerve surgery If any criticism could be fairly made, it would be that there is a lack of clinical end-results to substantiate the principles on which the work is based

LEHRBUCH KLINISCHER DIAGNOSTIK UND UNTERSUCHUNGSMETHODIK FUR STUDIERENDE MEDIZINALPRAKTIKANTEN UND AERZTE Von Prof Dr Theodor Brugsch Oberarzt der II med Univ Klinik in Berlin und Prof Dr Alfred Schittenhelm Direktor der med Klinik Kiel Fifth edition Paper Price 390 marks Pp 968 with 432 illustrations Berlin Urban & Schwarzenberg 1921

This edition comprises almost 1,000 pages of closely printed and compact material covering every method of clinical and laboratory examination One is reminded in perusing this volume of the monumental work of Sahli The first part is devoted to general topics, such as anamnesis and physical examination All the well known and latest mechanical means for diagnosis, as electrocardiography, phonocardiography and roentgenology, are discussed The remainder is devoted to special methods used in the diagnosis of diseases of the various systems The subject of immunology and infection is given considerable space The attempt of the authors to cover as much ground as they do leads to an imbalance It is impossible to enter into differential diagnosis, or to consider in more than the briefest manner the outstanding features of all diseases This defect in the present edition might have been made less apparent by the elimination of a large number of tests which have outlived their usefulness, and the substitution of clinical data for them

A LABORATORY MANUAL FOR COMPARATIVE VERTEBRATE ANATOMY By Libbie H Hyman Department of Zoology University of Chicago Cloth Price $2 50 net Pp 380 with 69 illustrations Chicago University of Chicago Press 1922

This book meets a great need, for comparative anatomy teaching has not been well supplied with laboratory guides It is a pity that the course outlined, or one equally good, is not part of the curriculum of all students preparing for medicine The pedagogic policy followed is sound The problems and needs of the student have been considered with exceptional care and breadth of view Experience with different methods has proved that laboratory guides cannot be too definite The success of a course is largely proportional to the thoroughness of the organization of the instruction The experienced and open minded instructor will appreciate the effort made in this book to facilitate the acquirement of anatomic knowledge every student should have before beginning a medical course The methods employed in this book do not appear to be inconsistent with the spirit of research The student should be stimulated in scholarly ambition by the success which such a book should help him to attain It is possible that, in brief courses, the average student may find too much detail It may be necessary for the instructor in a short course to make limited selections The so called comparative plan, involving an arrangement by systems of organs rather than by types, is followed The importance of a good knowledge of the skeleton is recognized, and there is a commendable phylogenetic point of view There is much supplementary material, including a good glossary and a complete index The reader's convenience is recognized usually, but not always, in the use of complete terms instead of letters in labeling illustrations

THE CHILD AND THE HOME Essays on the Rational Bringing Up of Children By Benzion Liber M D Dr P H Cloth Price $2 50 Pp 253, with 2 illustrations New York Rational Living 1922

The fundamental text of Dr Liber's book is the plea for absolute freedom of will to the child He particularly attacks the cult of obedience, stating that the child is not the property of the parents and owes them nothing, except friendship and affection if they deserve it Presumably the judgment as to whether or not they deserve it rests entirely with the child The writing is marred by frequent uses of involved Germanic constructions The opinions are original, but too radical to be safe There are two prefaces, one at the front of the book by Upton Sinclair, and one at the back of the book by teachers in the Modern School of Shelton, N J There is also a supplementary advertisement of Dr Liber's independent magazine called *Rational Life* which is devoted to such subjects as "Birth Control," "Drugless Treatment of Diseases" and Vegetarianism" Most rational persons would differ with Dr Liber's conception of the rational up bringing of children

Miscellany

SHEPPARD-TOWNER MATERNITY ACT REJECTED BY MAINE

The governor of Maine has rejected, on behalf of the state of Maine, the Sheppard-Towner Maternity Act His rejection holds good at least until the next legislature convenes In a proclamation, issued July 17, he said, in part

I believe the time has come for the states of the Union to hold to a principle and to carefully scrutinize all offers of federal aid' before accepting them Having no doubt as to what my duty is in this matter, I decline to accept the Sheppard-Towner bill, and this state for the time being will stand with New York, Massachusetts and Rhode Island, the three states that have rejected it The state of Maine will not sell its birthright, and principle, not expediency, has been the determining factor with me in the solution of this problem

'The people of Maine are willing and able to care for their own mothers and children, and I have faith to believe that Maine men and women will do this rather than accept so-called gratuities from a federal bureau

The Sheppard-Towner bill is to be attacked in the courts by the commonwealth of Massachusetts, and eminent lawyers are of the opinion that the federal government has no power over the states in maternity and child welfare matters There also is grave doubt as to whether or not the governor of a state has the power to accept the bill in question, even though Congress attempts to confer that power upon him The governor of a state does not derive his authority from the federal government, and a federal bill that seeks to confer new power upon him is of questionable standing

The existing provisions of the Sheppard-Towner bill are reasonably moderate, but it properly may be assumed that attempts will be made to broaden its scope so as to further restrict the state's control over its own affairs It is apparent that the present bill is but an entering wedge for more radical legislation, and Maine s delegation in Congress, our

senators and representatives should be urged to resist all further encroachments upon the states by the federal government Maine will loyally support the Union in all matters that come under the provisions of the federal constitution, but the time has arrived when the people of this state will jealously guard the rights inherent in them as a sovereign people and will accept the responsibilities the possession of such rights imposes

"In years gone by the state of Maine has not hesitated to stand for great principles, and it is well for the forty-four states that have accepted the Sheppard-Towner bill to know that Maine neither asks for, nor for the time being accepts, federal aid for its mothers and children"

DRINKING WATER ON TRAINS

The Interstate Quarantine Regulations require common carriers to provide water for drinking and culinary purposes that is of satisfactory sanitary quality, further, that cooled water shall be handled in such a manner as to prevent contact with the ice The drinking water supplied in trains in the coach yards of Chicago and of other terminal cities of the Middle West was recently studied by A E Gorman, assistant sanitary engineer, U S Public Health Service He found that the railroad companies in nearly every instance were making an honest effort to meet the requirements of the quarantine regulations However owing largely to a lack of understanding of sanitary practices, some yard and coach foremen were permitting serious insanitary practices The most dangerous filth common to coach yards is fecal matter apparently dropped from the toilets of cars These droppings are altogether too common and when eliminated, a big factor in jeopardizing the drinking water supplied cars will be removed Yard trainmen and other employees Gorman recommends, should be forbidden to use the car toilets Water tanks are filled usually by means of the ordinary garden hose, which in some yards is dragged along the ground from car to car with no protection to the ends The hose is often leaky, or the free end may be frayed and while it is being dragged, filth may enter the hose or contaminate the ends In sterilizing water coolers Gorman found that the cooler was often placed on the ground over a short piece of air hose Steam lines were seen in two instances in Chicago actually lying in fecal deposits The steam table used by some yards is commendable Handling ice for water coolers is difficult, and employees sometimes put small pieces of ice in the coolers that have not been washed after falling to the ground Separate ice and water compartments will when generally used remove much of the danger from contaminated ice But even when separate compartments were in use, ice was found in many cases in both compartments Separate openings should be provided for filling ice and water compartments in coolers Gorman believes that health officials and railroad officials should confer on the matter of standardizing coach yard design, and the manner of handling ice and water

CONFERENCE ON VENEREAL DISEASES

The Northern European Red Cross Conference which met in Copenhagen in May, 1921, and which comprised delegations from England, Germany, Holland, Denmark, Norway, Sweden and Finland, adopted, among others, the following resolutions

The questions of compulsory notifications and of compulsory treatment being dependent on the experience resources and psychology of the people concerned in each country must be decided by individual nations

The regulation and official toleration of professional prostitution have been found to be medically useless as a check on the spread of venereal diseases and may even prove positively harmful tending as they do to give official sanction to a vicious traffic

Enlightenment of the general public on lines which are best calculated to minimize exposure to infection and which emphasize the necessity of thorough treatment is an essential part of any scheme for the combating of venereal diseases Instruction should particularly be addressed to parents and teachers in such a form as will enable them to give clear information on the reproduction of life and impress on adolescents the importance of individual responsibility to future generations. In the training of teachers special courses on these subjects should be provided

Medicolegal

Osteopath's License Held Properly Revoked

(Harlan v Alderson et al (Calif) 205 Pac R 1014)

The District Court of Appeal of California, First District, Division 1, in reversing a judgment that annulled an order of the board of medical examiners which revoked respondent Harlan's license to practice osteopathy in that state, says that in 1916 he was granted a reciprocity certificate to practice osteopathy, and early in 1920 proceedings were initiated before the board by a verified complaint against the respondent, charging him with a violation of the ninth subdivision of Section 14 of Chapter 354 of the Statutes of 1913, as amended in 1915, 1917 and 1919 The uncontradicted evidence introduced at the hearing showed that he wrote prescriptions and performed both minor and major surgery and engaged in the unlicensed practice of medicine and surgery The question presented to this court was whether or not the case fell within the provisions of Subdivision 9 of Section 14 of the Act of 1913 which provides what shall constitute misconduct which shall warrant the board of medical examiners in revoking a license granted under the provisions of this act and which reads

Ninth The use by the holder of a drugless practitioner certificate of drugs or what are known as medicinal preparations in or upon any human being or the severing or penetrating by the holder of said drugless practitioner certificate of the tissues of any human being in the treatment of any disease injury deformity or other physical or mental condition of such human being excepting the severing of the umbilical cord

The court thinks it did so fall The well-settled definitions of osteopathy both in the decisions and in the dictionaries uniformly hold that the system of osteopathy "uses no drugs It administers no drugs it uses no knife As a remedy a form of manipulation is used" Wherefore, under the present classification, there can be no doubt that one holding an osteopath's license issued prior to the act of 1913, or subsequent thereto on the basis of a previously secured license from another state would, if originally licensed in California since the Act of 1913, be licensed as a "drugless practitioner And by virtue of Section 21, proceedings for the revocation of a reciprocity certificate must be had under the section under which such certificate would have been issued if originally issued under the provisions of this act.

A hearing was denied by the Supreme Court of California

Opinions of What Might Be Expected from Injuries

(Posch v Payne Director General of Railroads (Minn) 186 N W R 132)

The Supreme Court of Minnesota says that the plaintiff on alighting from a train Oct 25 1919, fell on a sloping platform A physician was called to attend her and mainly from complaint of pain, diagnosed the principal injury as an impacted fracture of the right leg The plaintiff was treated accordingly The evidence on the trial made it reasonably clear that the leg was not broken at all Then in June or early in July 1920 the plaintiff became pregnant, and there was a miscarriage in September which she claimed was a natural and proximate result of the injury She also claimed that as a result of her injury, which affected her nerves, she lost in a measure the sense of hearing in her left ear although by the fall she suffered no injury to the ear nor to her head so far as the evidence showed She was given a verdict for $10 000 damages In reversing an order denying a new trial the supreme court holds that it was prejudicial error to refuse requested instructions withdrawing the items of miscarriage and deafness from the consideration of the jury on the question of damages That the accident or fall on the station platform so injured or disarranged the internal organs of the plaintiff as to render miscarriage more likely to result from pregnancy subsequently occurring was not shown by any reliable evidence and the opinion of the medical expert to that effect was altogether too speculative and conjectural

to furnish a basis for legal liability against the original wrongdoer The case would be entirely different had pregnancy existed at the time of the accident And whatever deafness she experienced was but theoretically traced by her medical expert witness to the nervousness brought on as one of the results of the accident

The opinions of medical experts as to conditions naturally to be anticipated and expected to follow from given personal injuries are of great value to courts as aids in the determination of questions of that character, and entitled to serious attention and consideration in the pronouncing of judgment thereon Such opinions, however, are not controlling on the court, and the value and probative force thereof diminishes in proportion as the evidence indicates clearly to the practical lay mind a professional entry for support into the field of theoretical uncertainties and doubts Such the court believes the field drawn from in this case by the expert, who attributed the plaintiff's subsequent ailments in the particulars stated as a probable consequence and result of the accident in alighting from the train at the time in question For the error in submitting to the jury the elements of damage referred to, there must be a new trial

Physician Entitled to Jury Trial on Claim

(In re Stein's Estate (N Y) 193 N Y Supp 298)

The Supreme Court of New York, Appellate Division, Fourth Department, says that in December, 1918, a physician presented a verified claim against the estate of one Stein, deceased, for $81,461 01, for professional services rendered to said Stein under a contract In April, 1919, the executor rejected the claim by written notice served on the claimant More than a year elapsed, and nothing was done by the executor toward settling the estate or adjusting this claim, and in May, 1920, the claimant began a proceeding in the surrogate's court for an accounting There was much delay on the part of the executor in filing his account, and many adjournments were had Finally, a formal written demand for a jury trial of the issues was filed by the claimant The surrogate determined that the claimant was entitled to have the issues tried by a jury as a matter of right, and made an order accordingly, which order is here affirmed The claim was for professional services alleged to have been rendered by the claimant as a physician and based on a contract, and so long as he made claim for a sum of money only, the granting to him of the right to have the controverted issues of fact tried by a jury on the judicial settlement was simply affording a procedure in the surrogate's court similar to the procedure a claimant had always been entitled to adopt in a common law action in the supreme court of New York The demand for a jury trial in this case was seasonably made and was never waived The claimant had a right to bring his action in the supreme court within the time provided by statute, or have a trial in the surrogate's court on the judicial settlement of the estate, but with equal rights to a jury trial in both cases

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Oto Laryngology Minneapolis Sept 19 23 Dr Luther C Peter 1529 Spruce St Philadelphia Sec y
American Association of Obstetricians Gynecologists and Abdominal Surgeons Albany N Y Sept 19 21 Dr James E Davis 111 Josephine Ave Detroit Secretary
American Electro Therapeutic Association New York Sept 19 22 Dr A Bern Hirsh 71 W 94th St New York Secretary
American Roentgen Ray Society Los Angeles Sept 12 16 Dr H E Potter, 122 S Michigan Ave Chicago Secretary
Indiana State Medical Association Muncie Sept 27 29 Dr Charles N Combs Terre Haute Secretary
Missouri Valley Medical Society of the St Joseph Mo Sept 21 22 Dr Charles W Fassett 115 E 31st St Kansas City Mo Secretary
Utah State Medical Association Salt Lake City Aug 31 Sept 2 Dr W L Rich Boston Bldg Salt Lake City Secretary
Washington State Medical Association Tacoma Sept 5 6 Dr C H Thomson 508 Cobb Bldg Seattle Secretary
Wisconsin State Medical Society of Green Lake Sept 6 8 Dr Rock Sleyster Wauwatosa Secretary

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Archives of Neurology and Psychiatry, Chicago

July 1922 8, No 1

*Chronic Epidemic Encephalitis W F Schaller and J Oliver San Francisco—p 1
*Sugar Content of Blood and Spinal Fluid in Epidemic Encephalitis. W Thalhimer and H Updegraff Milwaukee—p 15
Xanthochromia Due to Acute, Purulent Spinal Meningitis G Horrax, Boston—p 24
*Use of Dyes in Localization of Spinal Cord Tumors at Operation L. Selling Portland Ore—p 27
*Cerebrospinal Fluid and Blood in Multiple Sclerosis J B Ayer and H E Foster Boston—p 31
Symptomatology of Epidemic Encephalitis F Kennedy T K Davis and G H Hyslop New York—p 40
*Exogenous Causes of Multiple Sclerosis L F Barker Baltimore—p 47
*Multiple Sclerosis from Standpoint of Geographic Distribution C B Davenport Cold Spring Harbor L I N Y—p 51
Statistics of Multiple Sclerosis I S Wechsler New York—p 59

Chronic Epidemic Encephalitis—The case of epidemic encephalitis reported by Schaller and Oliver, representing both clinical and anatomic examinations, is of particular interest because of the persisting inflammatory brain changes after fourteen months, and also because complaints of abdominal pain, muscle spasm and gastric distress thought to be due to local causes ultimately led to an exploratory laparotomy This exploration revealed no pathologic condition to account satisfactorily for the abdominal symptoms, and the final analysis of the case explained these symptoms as being due to brain lesions

Sugar in Blood and Spinal Fluid in Epidemic Encephalitis—Thalhimer and Updegraff found that in epidemic encephalitis the sugar content of the blood and spinal fluid is increased but only after a certain level of blood sugar has been reached At present hyperglycorrhachia can be used chiefly to differentiate epidemic encephalitis from the two conditions with which it is most likely to be confused—tuberculous meningitis and early poliomyelitis

Localization of Spinal Cord Tumors by Dyes—The method described by Selling consists of two steps first, the demonstration of spinal subarachnoid block, by the Ayer method, second, the injection of a dye into the cisterna magna, or into the lumbar subarachnoid space The injection is made immediately prior to operation Assuming that the lumbar route has been used, the dye will diffuse through the subarachnoid space up to the lower pole of the tumor The existence of a subarachnoid block will prevent its going beyond this point If the laminectomy opening is below the tumor, on opening the dura a deep blue stained fluid will be encountered The laminectomy must then be extended upward If, on the other hand the laminectomy has been above the level of the tumor on opening the dura a colorless fluid will be encountered The opening must then be continued downward

Cerebrospinal Fluid in Multiple Sclerosis—The spinal fluid findings in thirty-eight cases of multiple sclerosis, together with certain blood examinations in a number of these, are given by Ayer and Foster They state that there is no single fluid test of paramount value in the diagnosis of multiple sclerosis However, correlation of all tests ordinarily performed on the spinal fluid indicates that it is seldom entirely normal, and that in 50 per cent of the cases of this series findings unusual in other diseases were obtained This group of findings, which the authors consider important, is as follows fluid of normal appearance, obtained under normal or low pressure as registered by the manometer, showing a slight increase in cells (lymphocytes and arachnoid mononuclears), total protein normal or only slightly increased, globulin, a slight trace or absent, and a paretic colloidal gold curve with a negative Wassermann reaction Correlation with the clinical picture suggests that this type

of fluid indicates a progressive stage of multiple sclerosis Conversely, normal or nearly normal fluids were found primarily in patients in whom no clinical progress had recently been apparent Results of certain chemical studies designed to show disorders of metabolism in this disease, performed on blood and spinal fluid, were normal

Exogenous Causes of Multiple Sclerosis —The possible exogenous causes considered by Barker are (1) the influence of earlier infections, (2) the influence of intoxications, (3) thermal and electrical influences, and (4) trauma If the exogenous factors mentioned play any role at all in the etiology of the disease, Barker says, they must act either as predisposing influences for the true cause or as aggravators of a disease already started by the true cause

Geographic Distribution of Multiple Sclerosis —The results of the tabulation of multiple sclerosis as one of the defects found in drafted men are plotted by Davenport and the results discussed It shows that the maximum rate for this disease was found in Michigan and Minnesota in which there were eighteen persons with this disease per 100 000 Excepting Delaware and the District of Columbia (whose *rates depend on one and two cases, respectively*), the next highest ratio is that for Wisconsin, fourteen per 100,000 That these states with a high ratio for multiple sclerosis are adjacent states, bordering on the Great Lakes, is regarded by Davenport as of great interest In discussing the etiology of this disease Davenport suggests that the factor of heredity cannot be left out of consideration

Statistics of Multiple Sclerosis —Wechsler's study is based on the records of 1,970 cases of multiple sclerosis and includes the infantile, congenital, familial and hereditary forms and the mental and psychic symptoms

Archives of Occupational Therapy, Baltimore

June 1922 **1**, No 3

Psychology of Occupational Therapy E Bowman Baltimore —p 171
Scope of Occupational Therapy and Requirements for Training of Occupational Aides E G Brackett —p 179
Training of Occupational Aide J D Adams Boston —p 187
Industrial Case from Accident Back to Job H B Goodman Milwaukee —p 193
Experience with Tuberculous Patients G Sample —p 205
Report of Round Table on Wood Work and Their Finishings A H Dean St Louis —p 215
Fifth Annual Meeting of National Society for Promotion of Occupational Therapy —p 219

Boston Medical and Surgical Journal

July 6 1922 **187** No 1

Endometrial Hematomas of Ovary J V Meigs Boston —p 1
*Social History in Relation to Heart Patients W D Reid Boston —p 13
Modern Aspects of Acute Empyema W Whittemore Boston —p 16
Acute Ethmoiditis with Orbital Abscess Case Report H J Gibby Worcester Mass —p 19
Heart Disease in Industry W I Clark Jr Worcester Mass —p 21
*Infantile Heart in Adult Life L F Bishop New York —p 23

Social History in Heart Disease —Four cases are cited by Reid illustrating the importance of the social history in patients of an outpatient heart clinic The social history often discloses why certain patients fail to make an expected improvement At times the skilful utilization of such data greatly increases the therapeutic success achieved The social history may contain information of value in the diagnosis of that type of patient held to have an 'irritable heart" Attention to the social history opens up a big broad, humanitarian side of the practice of medicine Further justification of emphasis of the social history is found in that it keeps alive the fact that patients are not mere medical cases but living human beings

Infantile Heart in Adult Life —The infantile heart, Bishop says, is met with as a recognizable condition from the tenth year onward The man with an infantile heart can go as far as he will, without injury to the heart, because his wind gives out and he must stop The syndrome of an infantile heart is a right predominance, sinus arrhythmia, a history of palpitation, and a soft blowing murmur above and to the left of the middle of the sternum The fluoroscope usually shows besides a centrally located heart shadow, a fairly definite predominance in the region of the conus An interesting problem has been the recognition of this condition in later life On several occasions, Bishop says, he could surmise that this condition had existed in the early life of people who later developed extremely high blood pressures (230 and 240, and the like), which could not be accounted for in any way, and which were carried with an unusual degree of tolerance They differ from the ordinary high blood pressure cases in that their hearts are not markedly the subject of a left predominance There may even be a right predominance at an advanced age A certain number of infantile hearts seem later to conform to the normal type In other words, in popular language, the condition is outgrown

California State Journal of Medicine, San Francisco

June 1922 **20** No 6

Accomplishments and Problems of Medical Society of State of California J H Graves San Francisco —p 179
Governmental Activities and Tendencies in Health Field W V Brem Los Angeles —p 181
What General Practitioner Can Do to Improve Diagnosis and Treatment of Diseases of Children L Porter San Francisco —p 185
*Common Parasitic Dermatoses in Southern California M Scholtz, Los Angeles —p 190
Factors Contributing to Success or Failure in Group Medicine E V Frederick Reno Nev —p 192
*Basic Diets in Treatment of Nephritis W D Sansum Santa Barbara. —p 194
Cardiac Dyspnea or Rather Cardiac Shortness of Breath H Spiro, San Francisco —p 198
Place of Pathology in Practice of Medicine W V Brem Los Angeles —p 201

Common Parasitic Dermatoses in Southern California —Ectogenous parasitic dermatoses, according to Scholtz, make up about 30 per cent of the total number of skin diseases in Southern California The most widespread in the order of frequency are streptodermias, tinea, scabies and staphylodermias Scholtz urges that a more thorough isolation of skin lesions caused by streptococci, staphylococci, tinea and scabies should be enforced in schools and in homes A sanitary inspection of domestic animals, particularly dogs and cats, in all homes from which cases of tinea are reported, *is highly desirable as these animals seem to be the main* agencies in spreading tinea Cases of tinea and scabies should be reportable

Basic Diet in Nephritis —Sansum asserts that by the employment of what he terms a 'basic diet," the urinary acidity may easily be reduced to a p_H of 7 or better On such diets patients with chronic interstitial nephritis appear to improve as evidenced by a decrease in blood pressure, albumin and casts in the urine and other symptoms of nephritis and arterial hypertension

Endocrinology, Los Angeles

May 1922 **6**, No 3

Diabetes Insipidus Its Pathogenesis and Therapeutics T Stenstrom Lund Sweden —p 365
Pseudohermaphroditic Cock C J and C. Parhon Roumania —p 383
*Clinical Study of Patient Suffering from Intense Thirst and Polyuria (Diabetes Insipidus) and Presenting Roentgen Ray Evidence of Malignant Processes in Cranial Bones Possibly Late Metastases of Mammary Carcinoma E S Cross Baltimore —p 387
Changes Produced in Larval Brain of Rana Pipiens by Thyroid Feeding W B Cooksey Lawrence Kan —p 393
Some Factors Which Modify Epinephrin Reaction J B Collip Toronto —p 402

Diabetes Insipidus Symptoms Coincident with Breast Cancer Metastasis in Skull —Cross patient was a woman, aged 58 who complained chiefly of excessive thirst of very frequent urination of weakness, of peculiar morning vomiting and of marked disability in the lower part of the back At 48 the left breast was removed by a competent surgeon because of a tumor supposed to be a carcinoma The present illness had its beginning seven months before consultation Summing up the situation the principal features were as follows (1) loss of weight and strength, (2) gastric symptoms including nausea morning vomiting and anorexia, (3) polyuria and polydipsia, (4) disability of the spine Of these, *the fourth was easily explicable, apparently, on the*

basis of roentgen-ray findings of infectious arthritis of the spine No local cause had been found for the gastric symptoms Urinary studies, blood findings and blood pressure were all rather against the polyuria being a manifestation of chronic nephritis, and there was nothing to suggest that it was of hysterical origin Roentgen-ray studies of the skull showed scattered through the cranial bones, particularly in the parietal and frontal regions, numerous rarefied areas of bone destruction, showing no evidence of new bone formation, the process in the bones was apparently invasive in character, in every way resembling the changes in malignancy The patient died on the third day of coma Cross regards the case as one of multiple, malignant metastases in the bones of the skull, at the base of the brain, and, possibly, also in the lumbar spine It is probable that the involvement of the base of the brain affected the mechanism regulating water metabolism, so that symptoms of mild diabetes insipidus developed The origin of the metastases is uncertain, but it is quite possible that they were secondary to the breast cancer removed ten years before

Florida Medical Association Journal, St Augustine and Jacksonville

May 1922 **8**, No 11

Preventable Deformities of Lower Extremity H C Dozier Ft Sheridan Ill —p 195
Diagnosis of Chronic Cholecystitis R R Sullivan Lakeland Fla —p *207*

June 1922 **8** No 12

Roentgen Ray Treatment of Tonsils and Adenoids L W Cunningham Jacksonville —p 213
Epilepsy Report of Cases of Apparent Cure Surgically L C Fischer Atlanta Ga —p *214*
Trachoma and Conjunctival Folliculosis A K Wilson Jacksonville —p 219

Indiana State Medical Association Journal, Ft Wayne

May 1922 **15** No 5

Streptococcic Osteomyelitis of Temporal Bone H Boyd Snee South Bend —p 147
Some Problems in Syphilis R V Hoffman South Bend —p 152
What General Practitioner Can Do in Otology D O Kearby Indianapolis —p 155
Sand Bur in Larynx G F Keiper Lafayette —p *161*
Medical Sermon F E Jackson Indianapolis —p 163

June 1922 **15** No 6

Osteitis Fibrosa Cystica V H Moon Indianapolis —p 185
Puerperal Eclampsia. J Ketcham Indianapolis —p 187
Operative Injury of Hepatic and Common Bile Ducts H K Bonn Indianapolis —p 192
Ludwig's Angina W F Molt Indianapolis —p 196
Physical Inequality of School Children G W Spohn Elkhart —p *200*

Journal of Infectious Diseases, Chicago

June 1922 **30** No 6

*Occurrence of Endameba Histolytica with Tissue Lesions in Testis and Epididymis in Chronic Dysentery A S Warthin —p 559
*Excretion of Spirochaeta Pallida Through Kidneys A S Warthin —p *569*
Staining of Spirochetes in Cover Glass Smears by Silver Agar Method A S Warthin and A C Starry Ann Arbor Mich —p 592
*Unusual Case of Nocardiosis G R Callender and J F Coupal Washington D C —p 601
Peculiar Failure of Hemolytic Action in Strain of Hemolytic Streptococcus E Valentine New York —p *610*
Bacteriologic Studies of Gastric Fractions Obtained by Rehfuss Method N Kopeloff New York —p 613
Precipitin Reaction in Determination of Infectivity of Gonorrheal Discharges M F Kelley —p *623*
*Ameba Like Organism in Kidneys of Child L Jackson Chicago —p 636
Bacteriophage Phenomena with Staphylococcus Aureus B R Callow, New York —p 643
Hydrogen Ion Studies III Hydrogen Ion Changes in Agglutination of Bacteria by Immune Serum E F Hirsch Chicago —p *651*
Id IV Changes in Reaction Accompanying Precipitation of Colloidal Gold by Spinal Fluid (Lange Test) E F Hirsch —p 658
Id V Changes in Reaction of Blood in Experimental Infections E F Hirsch and J L Williams Chicago —p *664*
Id VI Hydrogen Ion Changes on Precipitation of Human Serum by Immune Serum E F Hirsch Chicago —p *666*
Production of Lung Hemorrhages and Associated Phenomena in Rabbits and Guinea Pigs S E Branham Chicago —p *670*

Endameba Histolytica in Testes in Dysentery—Warthin's case presents the unique occurrence of the metastasis of *Endameba histolytica* to epididymides and testes with definite though slight, local lesions in these organs, in a patient affected for many years with amebic dysentery, at the time of death nearly completely healed, with disappearance of amebas from the stools It is the first recorded instance of such a localization of *Endameba histolytica,* and presents additional evidence of the mildly pathogenic character of this parasite, in the slight tissue destruction caused by it and its phagocytosis of red blood cells and spermatozoa A point of some interest is the localization of the small lesions in the rete testes and tubuli efferentes with long streaming clots extending upward into the epididymis, the amebas being held within these clots In the dilated semen filled portions of the epididymis the organisms were found in greater numbers and free in the semen Their commensal character is shown by the phagocytosis of red blood cells in the clots, and by that of spermatozoa in the semen particularly, that is, they show the same tendency in the semen to feed on substances contained in it as they do on the substances in the intestinal contents

Excretion of Spirochete by Kidneys—In three cases of congenital syphilis studied by Warthin, one of a child dying at birth another dying eight days after birth, and the third at 3½ years of age, the kidneys presented an unusual degree of spirochete localization with definite lesions In two cases of acquired syphilis, those of a young man with a roseolar eruption and a young woman with maculopapular eruption, both dying from arsphenamin poisoning, a similar localization of spirochetes in the kidneys with positive evidences of excretion through the renal epithelium into the tubules was observed Identical conditions and changes were present in all five of these cases No arsphenamin treatment had been administered to the patient with the congenital case dying soon after birth or to the child of 3½ years, but it had been given to the child dying at 8 days of age, and the death was supposed to have been due to the treatment The child of 3½ years of age had albuminuria and symptoms suggesting poliomyelitis, the young woman of 23 years had casts and albuminuria, the urine of the young man had not been examined He was suppo edly in good condition, except for the chancre and the roseolar eruption

Nocardiosis of Lung—The patient whose case is cited by Callender and Coupal, two years before death inhaled into his right bronchus a chicken vertebra He minimized the importance of the size of the bone and repeated roentgen-ray examinations failed to reveal it A few months after the accident the patient had a severe attack of "influenza" with pneumonia which was especially localized on the right side A year later there was a train of symptoms of the same character During the interim the patient was in comparatively good health Following this second attack until his death (a period of seven months) the patient gradually failed He had a cough, high temperature, pain in the right side and shortness of breath Bacteriologic examinations were negative but physical examination and roentgenograms indicated a tuberculous process Two weeks before death there was evidence of embolic processes as indicated by the cerebral attack and the abscess on the leg Signs were found of old tuberculosis of the apexes It is impossible to determine accurately the exact onset of the infection with nocardia It seems not unreasonable to suppose that the focus of diminished resistance produced by the bone in the bronchus gave a satisfactory lodging place for this organism which probably came from the mouth and that it slowly developed during the last seven months of the patient's life, then by its formation of abscesses it gained access to the blood stream and produced a nocardial pyemia during the last two weeks The organism belongs to the streptothrix group and is a rather unusual type in that it is apparently an absolute anaerobe

Ameba in Kidneys—An ameba-like organism, the apparent cause of an acute parenchymatous nephritis, was found by Jackson in the kidneys of a child, 15 months old who died suddenly in a convulsion Neither the gross nor histologic examination of the tissues revealed any other apparently sufficient cause of death Three reports are found in the literature of the occurrence of somewhat similar organisms in the kidneys, twice in syphilitic fetuses and once in a stillborn, nonsyphilitic child

Journal of Urology, Baltimore

June, 1922, 7, No 6

Some Disputed Points Regarding Prostatectomy A L Chute Boston —p 417
Pneumoperitoneum in Kidney Diagnosis with Special Reference to Detection of Retroperitoneal Masses L R Sante, St Louis —p 451
Extension of Hypernephroma by Way of Renal Vein L D Keyser and G S Foulds Rochester Minn —p 463
Relation of Colon Bacilli of Renal Infections to Strains from Other Sources and Observations on Hemolytic Colon Bacilli R D Herrold, Chicago —p 473
Pyelitis of Pregnancy W G Sexton Marshfield, Wis —p 481
New Sign in Diagnosis of Ureteral Stones B Lewis St Louis —p 487
Human Bladder Muscle Under Increased Tension J C Baldwin Baltimore —p 499
Scrotal Bandages C W Collings New York —p 501

Michigan State Medical Society Journal, Grand Rapids

June 1922 21, No 6

Hygiene Public Health and Physical Education at University of Michigan J Sundwall Ann Arbor —p 235
Complications of Diabetes Mellitus P L Marsh Ann Arbor —p 238
*Case of Portal Cirrhosis in Child, with Operation (Talma Morrison) M B Kay and N Ginsburg, Detroit —p 244
Actinotherapy in Infection A E Schuller Detroit —p 247
*Convalescent Human Serum in Treatment of Severe Cases of Scarlet Fever, Review of Literature B Bernbaum Detroit —p 249
*Treatment of Diphtheria by Intravenous Injections of Diphtheria Antitoxin H K Sachs Detroit —p 252
Quartz Light Therapy in Pelvic Inflammation L C Donnelly, Detroit —p 254

Complications of Diabetes Mellitus—The more important complications of diabetes mellitus are discussed by Marsh It is pointed out that some of the complications are important because of their effect on the diabetes, some because of the effect of the diabetes on the complications and some because they are distressing to the patient and may be fatal The importance of prophylaxis of most of these complications by thorough dietetic treatment of even the mildest cases of diabetes is emphasized Attention is called to the fact that success in the treatment of complications may be expected only if the diabetes is kept under control

Portal Cirrhosis in Child with Operation—The case reported by Kay and Ginsberg is one of the undoubted cases of alcoholic cirrhosis and in addition is a presentation of the only case of cirrhosis of the liver in childhood that has been treated by the Talma-Morrison operation (though with a fatal outcome) The boy, aged 11, developed the habit of taking drinks of an alcoholic beverage, which he described as vodka, stating that it was very strong and hard to take at first, but he soon became accustomed to it and learned to take it and enjoy it, receiving a small glassful three times a day He never reached the stage of intoxication His drinking periods extended over three months a year for three years The father noticed that the boy's abdomen began to enlarge and as he aptly put it, "the belly got bigger and the boy littler" The size of the abdomen increased steadily During this period the boy had periodic attacks of vomiting On one occasion hematemesis occurred Emaciation had been continuous and rather marked, accompanied by an increasing cachexia

Convalescent Human Serum in Treatment of Scarlet Fever—Bernbaum reports on an analysis of thirty-nine cases of scarlet fever treated at the Herman Kiefer Hospital with convalescent serum for the year ending July 1, 1921 Thirty-two patients lived and seven died Of the seven who died, two were practically moribund, one died within twenty-one hours and the other eighteen hours after entrance, one after eight days of acute hemorrhagic nephritis, one after eight days of septic complications Three died of toxemia Two of these received only 10 c c of serum and one 20 c c Of the thirty-two surviving cases, twenty were toxic and twelve had septic complications The average dose was from 10 to 35 c c intramuscularly The serum was administered from the third to the eighth day of the disease Children responded as well as adults Eighteen cases were treated so far the fiscal year, beginning July 1, 1921 These were the most severe of all cases of scarlet fever admitted since that date Of these eighteen, five died One died of pneumonia and sepsis after two weeks One died in twenty-four hours from myocardial failure One died of general sepsis following extensive adenitis One was sick one week before entrance, came into hospital almost moribund and died within fourteen hours One died of toxemia, but had received only 30 c c of blood, which is equivalent to about 10 to 12 c c of serum Even some of these cases showed improvement after the administration of serum Of the thirteen recovered cases, four were of the pure toxic type The blood was taken from healthy donors, Wassermann negative in the fourth or fifth week of the disease The serum was injected intramuscularly in all cases The blood was obtained from the median cephalic vein of the donors by the syringe method or into a mouth suction bottle Fresh whole blood, citrated whole blood centrifuged citrated blood, serum from defibrinated blood, citrated blood run through a Berkefield filter and decanted serum after standing were used The effect from the serum obtained in any way was identical

Diphtheria Antitoxin Administered Intravenously—Sachs states that antitoxin should be given intravenously only in severe cases in which there are present excessive membrane and toxemia

New York Medical Journal and Medical Record

July 5 1922 116, No 1

Radium Therapy in Certain Gynecologic Conditions S Tousey New York —p 1
Uses of Radium in Gynecology T H Cherry, New York —p 6
*Two Complicated Deliveries Requiring Cesarean Section J C Applegate, Philadelphia —p 9
Once Cesarean Always Cesarean E B Piper Philadelphia —p 10
Resume of Some Recent Advances in Gynecology W T Dannreuther New York —p 12
*Carcinoma of Cervix Uteri in Nulliparous Woman F C Hammond Philadelphia —p 14
Suppurating Uterine Myoma W E Darnall Atlantic City N J —p 17
Etiology of Eclampsia W L Culbertson, Philadelphia —p 19
Ascertaining Viability of Fetus L Drosin New York —p 20
Natural Limit of Duration of Human Gestation J Oliver London, Eng —p 22
Tuberculosis and Pregnancy H Schwatt New York —p 24
Gonorrhea in Women from Aspect of Focal Infection F W Langstroth New York —p 26
Ovarian Therapy in Involutional Melancholia E A Strecker and B L Keyes Philadelphia —p 30
One Hundred Cases of Postpartum Hemorrhage M Hornstein New York —p 34
*Case of Pregnancy Following Menopause M L Brandt New York —p 38
Plea for Oophorotomy on All Pathologic Ovaries and Resection of Disease Tissue S Rottenberg and G Schwartz New York —p 39
New Virgin Vaginal Speculum G E Garnes Herkimer N Y —p 40

Two Cases of Cesarean Section—One of Applegate's patients had a large uterine fibroid, the nature of the dystocia being undetermined in the beginning, the other case was a breech presentation in a primipara with a pelvis below normal in dimensions and a fetal head oversize and greatly out of proportion to the pelvis

Carcinoma of Cervix in Nullipara—Hammond reports nine cases Only one of the patients was under 30 He urges that a careful history be taken of every case of pelvic disease, more especially when bleeding is a symptom, and, the physician must not be influenced by the age or social status of the woman, when making a pelvic examination, the patient must be approached with the firm determination of making a positive diagnosis

Ovarian Therapy in Involutional Melancholia—Although no definite connection between any of the symptoms of so-called involutional depression and ovarian function has been determined by Strecker and Keyes, it seems probable that in a limited number of patients the injection of ovarian extracts exerts a favorable influence on the general physical status and perhaps more particularly it lowers and stabilizes the blood pressure while possibly in a small group a corresponding helpful influence is exerted on the course of the psychosis The most important and definite physical changes resulting from experiments made on all fourteen patients were a drop in diastolic blood pressure and in eleven patients a drop in systolic pressure, ten patients gained in weight, six improved markedly in appetite, six showed improvement in quantity and quality of sleep, one reestablished menstruation after an absence of seventeen months, in one there developed a decided improvement in troublesome menstrual manifesta-

Dr. Robert Kelly Cravens

tions, and eight showed rise in the percentage of eosinophils No one patient is any worse than before medication started and there is a noticeable improvement in the general physical condition of the group as a whole

Pregnancy Following Menopause—Brandt found only five other authentic cases of pregnancy occurring after menopause in the literature His patient was 46 years of age Her last menstrual period occurred in June, 1916 In May, 1919, she was delivered of a male child weighing 9 pounds Incidentally, this child showed all the signs of achondroplasia Ten months after the birth of the child, the patient after weaning the baby, began to menstruate and had three normal periods The menses have not returned since then

Philippine Islands Medical Association Journal, Manila

March April 1922 **2** No 2

*Incidence of Diabetes Mellitus Among Filipinos I Concepcion—p 57
Ruptures of Gastro Intestinal Tract M P Mendoza Guazon—p 63
Induced Abortion from Medico Legal Point of View M Tolentino and G Kustin—p 66
Bilateral Optic Atrophy Associated with Certain Meningitic Symptoms Report of Case F Nicolas—p 70
Edema of Vulva in Labor A Villarama—p 73

Incidence of Diabetes Mellitus Among Filipinos—Concepcion shows that the mortality of diabetes mellitus in the city of Manila has gradually been increasing from year to year, especially within the last few years This increase is only apparent, due to a greater accuracy of vital statistics There is no reason to believe that increased consumption of sugar is one of the main factors responsible for the greater frequency of diabetes in the last few years At least this supposition will not hold true in the city of Manila as there is no corresponding increase in mortality from diabetes due to the increased consumption of sugar per capita The incidence of diabetes in the Philippines is very much less than in other countries, including Japan The disease is most frequent between the ages of 40 and 50 among Filipinos This is also true among Japanese and Chinese Among Europeans it occurs most commonly between 50 and 70 The slight difference may be explained by the early maturity of Orientals as compared with Europeans Diabetes mellitus as it occurs among Filipinos is of a milder type than among Europeans and Americans The mortality of those suffering from it is very low and only a small percentage die of diabetic coma The low incidence of diabetes mellitus among Filipinos and other Orientals may be explained as due either to greater power of assimilation for sugar among these people compared with Europeans and Americans, or to the fact that they are less exposed to continuous nervous strain on account of their peculiar modes of living It may also be due to some peculiar racial tendency or characteristic This point is of interest, as in the Philippines the diet is largely carbohydrate, for that reason diabetes should be more frequent here than in other countries which, however, was found not to be the case

Public Health Journal, Toronto

June 1922 **13**, No 6

Public Health Organization J Roberts Hamilton Ont—p 241
System of Follow Up Work for Tuberculosis Z Keifer Toronto—p 251
Drosophilids in Milk. E A Bruce Agassiz B C—p 259

Rhode Island Medical Journal, Providence

July 1922 **5** No 7

Cancer of Stomach End Results in Sixty Five Cases P E Truesdale Fall River Mass—p 269
Diagnosis of Diseases of Scalp R. Blosser Providence R. I—p 271

Southwestern Medicine, Phoenix, Ariz

June 1922 **6**, No 6

Gastric Polyposis L Bryan San Francisco—p 225
Lerthes Disease Report of Case R J Stroud Temple Ariz—p 227
Ruptured Tubal Pregnancy Report of Four Cases C E Yount and H T Southworth Prescott Ariz—p 233
Possibilities of Early Diagnosis of Tuberculous Kidney B Wright and G Turner El Paso Tex.—p 237
Blood Chemistry Report of Fifty Examinations E A Newton Los Angeles Calif—p 240
Fetal Dystocia from Faulty Attitude and Faulty Position H A Reese Bisbee Ariz—p 245

Surgery, Gynecology and Obstetrics, Chicago

July 1922 **35**, No 1

*Jejunal Ulcer Without Previous Gastro Enterostomy E P Richardson, Boston—p 1
*Surgical Treatment of Perforated Ulcers of Stomach and Duodenum G Hromada and S S Newman Vienna Austria—p 11
*Marginal Ulcer After Modified Polya Operation J P Houguet and L G Cole New York—p 19
Megasigmoid Megarectum, Fecal Bolus F G Corbin Mendoza Argentine Republic—p 23
*Recurrent Dislocation of Patella With Report of Sixteen Cases W R MacAusland and A F Sargent Boston—p 35
Endeavor to Evaluate Chronic Sepsis in Pregnancy J E Talbot Worcester Mass—p 42
Ileostomy Following Resection of Colon E S Judd and F W Rankin Rochester Minn—p 50
Total Transposition of Viscera H H Sherk Pasadena Calif—p 53
*Germicidal Character of Emanations from Colloids of Certain Silver Salts E G Ballenger and O F Elder Atlanta Ga—p 57
Test of Labor W G Lee Chicago—p 63
Roentgenography in Obstetrics D A. Horner Chicago—p 67
*Addison's Disease Complicating Pregnancy Labor or Puerperium G Fitz Patrick Chicago—p 72
Adolescent Rickets Report of Cases, Osteotomy for Genu Varum and Valgum P Lewin Chicago—p 77
*Chronic Bone Abscess Its Treatment by Simple Evacuation Through Drill Hole W M Brickner New York—p 84
Repair of Tendons in Fingers S Bunnell San Francisco—p 88
Posterior Dislocation of Foot with Posterior Marginal Fracture of Tibia and Unusually with Pott's Fracture of Fibula T T Thomas Philadelphia—p 98
Self Retaining Easily Removable Drainage Tube M Ballin Detroit. —p 102
Utilization of Pectineus Fascia in Certain Forms of Inguinal Hernia W D Wise Baltimore—p 103
Use of Electric Cautery in Laryngeal Tuberculosis G B Wood Philadelphia—p 104
Squamous Cell Epithelioma of Lip Its Surgical Indications J H Shephard San Jose Calif—p 107
Cholecystostomy or Cholecystectomy—Which? M F Porter Ft. Wayne Ind—p 110

Spontaneous Jejunal Ulcer—Twelve cases of spontaneous occurrence of peptic ulcer in the jejunum are cited by Richardson, ten being taken from the literature Of the twelve cases nine occurred between the ages of 45 and ten were in men In five necropsies in which the condition of the whole bowel is mentioned, the jejunal ulcer was the only one present in the intestinal tract, excluding for these cases a general ulcerative process In the remaining cases, only one intestinal ulcer was actually demonstrated although more might exist In six cases, confirmed five times by necropsy, and once, in Richardson's case, by operative evidence and roentgen ray, the stomach and duodenum were apparently negative Two cases showed a lesion of the duodenum or stomach In four cases the condition of these organs is uncertain The most frequent situation for the ulcer was within a few inches of the end of the duodenum, occurring there five times The other ulcers lay between this point and the middle of the jejunum or possibly lower The ulcer in seven cases showed evidence of chronicity, and was associated three times with a definite stricture of the bowel In two cases the ulcer seemed acute, in the remaining case the point is not clear Perforation occurred ten times in the twelve cases No definite etiology may be assigned to these cases Richardson suggests the possibility that disturbance of pyloric control may lead to gastric contents reaching the jejunum without neutralization and so to the formation of true peptic ulcer For ulcers situated lower in the intestinal tract, this cause seems improbable Since syphilis produces a form of intestinal ulceration which affects the jejunum more readily than the ileum, and also has a tendency to cicatricial contraction and perforation, it must be considered as a possible cause of ulceration in some of these cases although definite confirmatory evidence is lacking Two points are of particular importance in future cases a careful microscopic study of the lesions, including if possible the mesenteric lymph nodes, and the determination of the presence or absence of syphilis

Surgical Treatment of Stomach and Duodenum Ulcers—Nineteen cases are reported by Hromada and Newman Five patients died All were admitted to the hospital showing clinically wide-spread acute peritonitis In all of the cases, the cause of illness was diagnosed before operation In all cases resection of the stomach was done, and more than two thirds of the stomach was removed in two cases following

the Billroth method and in the rest the Kroenlein-Mikulicz method The duration of time between perforation and operation was from one and one-fourth to thirty-six hours All patients were given as little anesthetic as possible, morphin and ether being used All other details—history, condition of patient, findings at operation, condition after operation, and reexamination—are mentioned in the report of cases The ages ranged from 24 to 56 years, and the patients came from all walks of life—which has a bearing on the general state of the patient—nourishment and strength The cases in which a good prognosis could be made were treated by nonradical resection within the first twelve hours after perforation Local anesthesia has no advantage One patient died of an unusual complication—thrombosis of the subclavian artery with subsequent gangrene of the upper extremity—after having fully recovered from the peritonitis The intestinal function was fully restored on the second day after operation, the patient did not vomit, he could even take fluid diet and he had no pain whatever in the abdomen

Marginal Ulcer Follows Polya Operation—Hoguet and Cole assert that this is the only case of a marginal ulcer following a Polya operation recorded in literature The clinical course of the formation of the second ulcer could be followed closely

Recurrent Dislocation of Patella—MacAusland and Sargent make eight operations as follows An incision through the center of the patella tendon from the patella to the tubercle, cutting it off at this point on the outer half This half is then quilted with chromic catgut No 3, turned in under the inner remaining half and sutured in a bony groove as far as possible to the inner side on the inner face of the tibia The periosteum is then pulled over this insertion and the thin capsule pulled over these tendons

Germicidal Value of Colloidal Silver Salts—Colloidal silver salts, notably the chlorid, according to Ballenger and Elder, give off definite germicidal emanations These emanations prevent the growth of micro-organisms on Petrie agar plates in the immediate area surrounding the sealed glass tubes containing the colloidal silver chlorid A 1 per cent preparation has a germicidal value about equal to pure phenol yet when sealed in the anterior urethra for five hours is without pain, even with much stronger preparations No irritation is produced when applied to mucous membranes such as bladder nose, throat, sinuses, etc Good results followed its application to abscess cavities, fistulous tracts, and also when used as a wet dressing for infected wounds, mastoid incisions, etc Diluted 4 000 times, a 5 per cent preparation killed the spirochetes from a foul mouth in four minutes Given intravenously to rabbits artificially infected with the staphylococcus, 1 c c of a 1 per cent preparation cured the rabbits sterilizing their blood within twenty-four hours, while controls, untreated, died within forty-eight to seventy-two hours with multiple abscesses of the liver, kidney, heart, and other organs

Addison's Disease Complicating Pregnancy—To eleven cases recorded in the literature Fitz-Patrick adds one case The Pirquet and tuberculosis complement fixation tests were negative

Treatment of Chronic Bone Abscess—In cases of chronic bone abscess in which clinical signs—daily mild elevation of temperature, slowly increasing pain and tenderness—indicate that the pus is not sterile but that the virulence of the organisms is slight, Brickner suggests that simple evacuation through a small opening is well worth a trial, provided the patient is under close observation It must be remembered that, although the bone opening is relatively small, drainage is provided

Tennessee State Medical Association Journal, Nashville

June 1922 **15**, No 2

Lateral Sinus Thrombosis Complicating Mastoiditis W G Kennon Nashville—p 87
Management of Infectious Diarrhea O H Wilson Nashville—p 93
Synergistic Analgesia F Smythe Memphis—p 97
Granuloma Inguinale P G Morrissey Nashville—p 103
Dignity and Value of Organized Medicine T R Ray Shelbyville—p 107
Principles of Endocrinology L E Bisch Asheville N C—p 110

Texas State Journal of Medicine, Ft Worth

June 1922 **18**, No 2

Plea for Establishment of State Psychopathic Hospital T J Bennett, Austin—p 73
What Every Doctor Should Know About Cancer J C Bloodgood Baltimore—p 77
Medical Side of Cancer Problem A C Scott Temple—p 81
Divine Antitoxin T V Neal, El Paso—p 84

Virginia Medical Monthly, Richmond

June 1922 **49**, No 3

Work of State Board of Health E G Williams Richmond Va—p 113
Syphilis of Inner Ear and Eighth Nerve G W Mackenzie, Philadelphia—p 120
Roentgen Ray in Dermatology C A Simpson, Washington D C—p 122
Appendicitis S McGuire Richmond Va—p 125
Nature and Treatment of Hemorrhagic Fever C Thompson Jacksonville N C—p 127
Transuterine Pneumoperitoneum J J Mundell Washington, D C—p 130
Digitalis in Treatment of Cardiac Decompensation L E Stubbs Newport News Va—p 132
Trend of Healing Art A B Greiner Rural Retreat, Va—p 135
Management of Normal Labor and Puerperium A M Showalter Cumbria Va—p 136
Pericarditis with Effusion W B Porter Roanoke Va—p 140
Sarcoma of Long Bones J W Gibbon Charlotte, N C—p 142
Advantages and Methods of Making Labor Easy I Procter, Raleigh, N C—p 147
Submerged Tonsil D L. Rawls Suffolk Va—p 150
Sinusitis Report of Case N J Gould Norfolk Va—p 151
Venereal Diseases from Army Standpoint M C Sycle Richmond Va—p 155
Acute Appendicitis—Acute Salpingitis—Acute Pyelitis Differential Diagnosis F D Worthington Charlotte N C—p 158
Relation of General Practitioner to Venereal Diseases J A Keiger Greensboro N C—p 160
Hydrops Dyspnea Not Relieved by Aspiration Report of Case A G Brown Jr Richmond Va—p 161

July 1922 **49**, No 4

Primary Carcinoma of Gallbladder S H Watts University—p 175
Surgical Treatment of Facial Paralysis C C Coleman Richmond—p 180
Protein Sensitization in Bronchial Asthma Hay Fever and Allied Conditions With Report of Author's Own Case G T Brown Washington D C—p 188
Pneumonia Etiology and Diagnosis P Davis Roanoke—p 193
Symptomatology and Treatment of Pneumonia G B Lawson Roanoke—p 195
Some Phases in Treatment of Pneumonia G G Howery East Radford—p 199
Hernia of Liver and Intestines in New Born E L. Caudill, Narrows—p 201
Submucous Ulcer of Bladder Report of Cases Treated by Excision T J Hughes Roanoke—p 202
Treatment of Diphtheria T K McKee Saltville—p 203
Technic in Mixing and Administering Arsphenamin J J Giesen Radford—p 206
Empyema of Maxillary Sinuses Secondary to Extraction of Teeth A Hooks Bristol Va—Tenn—p 211
Tonsillary Hemorrhage L L Jones Portsmouth—p 214
Cesarean Section Its Indications and Limitations R P Kelly Lynchburg—p 215
Program for Malaria Control in Virginia R K Flannagan Richmond—p 219
Tumors of Mammary Gland N D Bitting Durham N C—p 222

Primary Carcinoma of Gallbladder—Among 525 operations performed for various affections of the gallbladder and biliary passages there were twenty cases of primary cancer of the gallbladder, a percentage of 3 8 The association of gallstones with primary carcinoma of the gallbladder is very striking In the twenty cases diagnosed primary carcinoma at operation stones were demonstrated in ten cases, 50 per cent but in many of these cases the gallbladder was so involved in growth that stones could not be demonstrated, even though present Investigations of others seem to show that gallstones are associated with primary cancer of the gallbladder in from 70 to 95 per cent of cases

Hernia of Liver and Intestine—Caudil relates two cases In one the greater part of the small intestine the cecum appendix ascending and transverse colon, had escaped through an opening at the umbilicus, apparently no larger than a twenty five cent piece The umbilical cord had been completely divided to the point of ligation The extrusion occurred while the mother was in the third stage of labor In the second case the baby was well developed and normal at birth with the exception of a large hernial protrusion from the umbilical region The mass was the size of a large orange and very hard and extended from the umbilicus to the

ensiform cartilage, the umbilical cord coming off from the lower portion of the mass The hernia was covered with a thin glistening membrane The anterior abdominal walls were well developed, the hernial mass being very much constricted at point of emergence from the abdominal cavity The hernia contained nothing but the liver which was apparently very much enlarged

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Children's Diseases, London

April June 1922 **19**, Nos 220 222

Severe Blood Diseases of Childhood F J Poynton H Thursfield and D Paterson —p 57
Causation of Postural or Orthostatic Albuminuria F P Weber —p 81
*Case of Aneurysm of Ductus Arteriosus R Hutchison —p 85
Purpura Fulminans Following Measles E H Kelly —p 86

Aneurysm of Ductus Arteriosus —A girl, aged 6 years, died from a sudden and profuse hemoptysis There was a history of measles followed by diphtheria five months previously, and six weeks later she suffered from "pleurisy" and had not been well since On admission she was complaining of pain in the left side of the chest with cough and feverishness There was a soft systolic murmur at the apex and over the sternum Examination of the lungs showed some dulness in the left infraclavicular and suprascapular regions with diminution of the breath sounds and some crepitation over the right apex in front As the case progressed, the dulness at the left apex became more pronounced and the apex beat extended further to the left The short systolic murmur disappeared The temperature remained moderately elevated (from 100 to 101 F) throughout The necropsy disclosed a rupture of an aneurysm of the ductus arteriosus into the lung

British Medical Journal, London

June 24 1922 **1** No 3208

*Duodenal Tube in Diagnosis and Treatment of Biliary Diseases J Meakins —p 983
Spread Probable Mode of Infection and Prophylaxis of Leprosy L Rogers —p 987
Acute Inflammation of Large Diverticulum of Jejunum with Perforation G W Christie —p 990
Temporosphenoidal Abscess J Adam —p 991
Carbonic Oxid in Tobacco Smoke H E Armstrong —p 992
*Amebicidal Action of Conessine H C Brown —p 993
*Modification of Operation of Cholecystenterostomy A Fullerton —p 995
Erythema Nodosum Associated with Acute Rheumatism H Wetherbee —p 995
Recurrent Vesicular Eruption After Influenza A W Panton —p 995
Cancer of Tongue Excision of Tongue Cancer of Stomach 34 Years Later J S Manson —p 996

Duodenal Tube in Diagnosis and Treatment of Biliary Disease —Apart from its value as a diagnostic measure Meakins asserts that the use of the duodenal tube lends itself to treatment In cases of biliary stasis independent of complete obstruction it is advisable to promote free and periodical emptying of the gallbladder and passages This is of particular importance when the stasis is associated with some chronic inflammatory process If cholelithiasis is present and there is good reason to avoid an operation, if possible, much in the way of amelioration may be expected This hope is especially warranted when it is realized that in practically every case of cholelithiasis, a chronic infection of the biliary passages is present, which infection perpetuates and is perpetuated by biliary stasis in the manner of a vicious circle Several cases in point are cited

Acute Jejunal Diverticulitis —Christie's patient complained of acute pain in the left side of the abdomen, below the umbilicus At the site of the pain there was distinct tenderness on palpation and a suspicion of slight rigidity On deep inspiration a round mass could be felt somewhat larger than a tennis ball, about midway between the umbilicus and the symphysis pubis, just to the left of the middle line The lump was hard and of the consistence of a uterine fibroid, though it was extremely tender Vaginal examination did not offer any assistance in diagnosis, and per rectum no fullness could be felt through the pouch of Douglas The swelling was not particularly mobile, though it was circumscribed Operation was performed fourteen days after the onset of the acute phase of her illness On opening the peritoneum, a quantity of serous peritoneal fluid escaped About the center of the abdomen, to the left of the middle line, was a mass somewhat larger than a tennis ball and entirely covered with a thick layer of omentum When the swelling was denuded of its omentum, there was exposed a large spherical mass, tense and fluctuating about the size of an apple springing from the antimesenteric border of a loop of small intestine A large gangrenous patch was disclosed on the fundus of the swelling, with a perforation in its center through which very foul smelling pus and semisolid contents escaped It was obvious that this was a condition analogous to acute inflammation of a Meckel's diverticulum, which had perforated soon after the commencement of her illness but which had fortunately been successfully dealt with by the omentum The origin of the diverticulum from the jejunum about 9 inches below the duodenojejunal junction was established

Amebicidal Action of Conessine —Conessine, an alkaloid having the formula $C_{24}H_{40}N_2$ which has been isolated from several members of the family of *Apocynaceae*, is shown by Brown to exert a very strong inhibitory action on the growth of free living amebas, in fact, exactly equal to that of emetin Infusions of the seeds of these plants have for many years been used in India with marked success in the treatment of chronic dysentery Although when administered subcutaneously conessine produces an area of necrosis at the site of inoculation, it can be administered by the mouth or intravenously in suitable doses without producing symptoms It is approximately 50 per cent less toxic than emetin A diminution of the inhibitory action on free living amebas of solutions of emetin and conessine which have been in contact with intestinal mucus is shown The serum of patients receiving full and repeated doses of emetin has apparently no amebicidal action, hence it is unlikely that the presence of conessine in blood serum could be detected by its effect on amebae The drug was used in the form of the sulphate. The subcutaneous M L D of conessine for a mouse is approximately 3 mg, and of emetin 2 mg The intravenous M L D is 0 45 mg and 0 3 mg respectively, or in other words, as far as these observations go emetin is approximately 50 per cent more toxic than conessine

Modified Cholecystenterostomy —The following procedure is advocated by Fullerton The gallbladder is opened and cleared of its contents A light clamp is placed near the neck and the greater part of the viscus is removed The small remaining portion is anastomosed to the duodenum, so that when the operation is completed the cystic duct opens into the duodenum without the intervention of any sac which might harbor gallstones or regurgitated intestinal contents Just enough of the gallbladder is left to enable the anastomosis to be accomplished satisfactorily

Glasgow Medical Journal

June 1922 **15**, No 6

What Is Heterophoria? A J Ballantyne —p 321
Fundamental Points in the Diagnosis of Pulmonary Tuberculosis J Crocket —p 329
*Tay Sachs Disease Symptomatology and Pathology of Three Atypical Cases H W Torrence —p 341

Tay-Sachs Disease —The cases described by Torrance being the youngest in the list most closely resemble the infantile Tay-Sachs group, with regard to the age incidence Histologically, they also resemble it, but possessing the typical pathologic picture of degeneration of optic nerves, nerve fiber layer, and ganglion cells (a triple syndrome) They present fewer additional variations to the accepted triple syndrome than the other cases Of these additional irregularities, most certainly the degeneration of rods and cones may be discounted owing to postmortem change and method of fixation In the elder cases (i e, Ichikawa and Wandless) the retinal destruction is most complete This may be due to the patients having lived longer than in the infantile group, and so allowing the final stages of degeneration to take place

Indian Journal of Medical Research, Calcutta

April 1922 9, No 4

Indian Calliphoridæ VI How to Recognize Indian Myiasis Producing Flies and Their Larvæ Together with Some Notes on How to Breed Them and Study Their Habits W S Patton—p 635
Id VII Additional Cases of Myiasis Caused by Larvæ of Chrysomyia Bezziana Vill Together with Some Notes on Diptera which Cause Myiasis in Man and Animals W S Patton—p 654
Indian Aphiochætæ Aphiochæta Xanthina Speiser (Repieta Schmitz Circumsistosa de Meijere Ferruginea Brunetti) Whose Larvæ Cause Cutaneous and Intestinal Myiasis in Man and Animals and Aphiochæta Rufipes Meigen Whose Larvæ Occasionally Cause Cutaneous Myiasis in Animals W S Patton—p 683
Bacteriologic and Laboratory Technic V W F Harvey—p 692
Virulence of Micro Organism and Its Dependence on Culture Medium W F Harvey and K R K Iyengar—p 726
Virulence of Organism as Factor in Efficacy of Prophylactic Vaccines W F Harvey and K R K Iyengar—p 730
Immunizing Properties of Allied Organisms and Nonspecific Organisms W F Harvey and K R K Iyengar—p 736
Immunization or Response of Immunized Animals to Small Dose of Antigen Administered at Long Interval After First Immunization W F Harvey—p 740
Relapsing Fever in Punjab (Preliminary Report) C A Gill—p 747
Visceral Infections Due to Higher Fungi I P Mackie—p 781
*Correlation Between Chemical Composition of Anthelmintics and Their Therapeutic Value in Connection with Hookworm Inquiry in Madras Presidency J F Caius and K S Mhaskar—p 787
*Delayed Cures in Treatment of Hookworm Infection K S Mhaskar—p 799
Demonstration of Capsules of Pneumococcus by Modification of Benians Relief Stain R H Malone—p 804
Septic Tank Latrines in Relation to Hookworm Disease J B McNair—p 806
Cultural Phases of Leishmania Donovani B Mohan das Gupta—p 809
Location of Genus Hemocystidium (Castellani and Willey 1904) Description of Two New Species H F Shortt—p 814
Two Hemogregarines of Persian Lizards H E Shortt—p 827
New Serum Test for Kala Azar L E Napier—p 830
Formalin Test as Applied to Diagnosis of Kala Azar P S Mills—p 847
*Gaté Papacostas Reaction in Leprosy D A Turkhud and C R Avari—p 850
Examination Into Degree of Efficacy of Antirabic Treatment W F Harvey and H W Acton—p 852

Visceral Infections by Fungi—The following cases are cited by Mackie one case of pulmonary aspergillosis complicating kala-azar, and two cases of streptothrix infection of the brain

Chemistry and Therapeutic Value of Anthelmintics—According to Caius and Mhaskar, salicylic acid has no anthelmintic properties, but esterification with methyl alcohol results in the formation of a compound with well marked vermicidal properties Esterification of either thymol or betanaphthol results in the loss of the vermicidal and vermifugal properties of those two very potent anthelmintics

Delayed Cures in Hookworm Infestation—In addition to its immediate vermicidal action Mhaskar says, an anthelmintic may also have a remote action on the worms This remote action brings about 'delayed cures" Except in proved cases of reinfection, a treatment which is known to be efficient need not be followed by any other

New Serum Test for Kala-Azar—The technic of the test described by Napier is similar to that described by Gate and Papacosta as the formol-gel test for syphilis, but the specificity of the test is in no way dependent on the gel formation but on the accompanying formation of a white opacity Napier terms this the 'aldehyde test" About 5 c c of blood is withdrawn from the patient's arm and allowed to stand for a sufficient time for the serum to separate One c c of clear serum is then placed in a small test tube ½ inch in diameter, to this one drop of 30 per cent liquor formaldehyd in the form of commercial formalin is added, the serum is immediately well shaken and placed in a test tube rack at laboratory temperature The serum from ar untreated case of kala-azar will immediately become viscid, within a minute or two it will have 'set,' so that the tube can be inverted without the serum being spilled, and will begin to become whitish and opalescent Within from three to twenty minutes, the time varying with different cases, the whole of the serum will have become absolutely solid and opaque like serum coagulated by heat or the "white' of a hard boiled egg If the serum is hemoglobin stained the coagulated serum will have a pink tinge which will turn chocolate brown after twenty-four hours

Formol-Gel Reaction in Leprosy—One hundred and sixteen serums from cases of leprosy not specially selected—nodular, anesthetic and mixed cases were included indiscriminately—were tested by Turkhud and Avari by the formol-gel method of Gate and Papacosta Every case gave a definite y positive reaction The test was carried out in every instance with inactivated serum only From these observations it appears that the Gate Papacostas reaction is likely to prove a valuable serologic test in the diagnosis of leprosy

Indian Medical Gazette, Calcutta

June 1922 57, No 6

India's Debt to Medical Research J Cunningham—p 201
Detection of Anthrax Spores in Shaving Brushes A D Stewart—p 204
Malignant Disease of Retained or Imperfectly Descended Testis F P Cotton—p 02
Mass Treatment of Hookworm Infection K S Mhaskar—p 208
Villous and Retention of Membranes W S Willmore—p 210
Case of Fibroma Molluscum D F Michael—p 219

Mass Treatment of Hookworm Infection—Thymol and betanaphthol in a maximum dose of 50 grains mixed with 2½ grains of light magnesium carbonate, given without purgatives according to the apparent age of the person, is recommended by Mhaskar as being a simple, effective and safe treatment

Lancet, London

July 1 1922 2, No 5157

Osteo Arthritis A G T Fisher—p 1
Etiology of Rickets in Infant H Chick E J Dalyell M Hume H M M Mackay and H H Smith—p 7
Roentgen Ray Diagnosis of Rickets H Wimberger—p 11
*Malignant Melanoma of Gum M J Stewart and J Phillips—p 12
Agglutinating Serum for Certain Strains of Tubercle Bacilli J Smith—p 13
Diagnosis of Suprarenal Insufficiency S Wright—p 14

Etiology of Rickets—The observations on the etiology of rickets reported on by Chick et al disclosed that rickets developed during winter and spring under excellent hygienic conditions in infants receiving a diet composed of fresh milk from stall fed cows and to which sugar was added, and was prevented in the case of children receiving a diet containing cod liver oil, more milk, and less carbohydrate Both milks were low in vitamin A content Rickets did not develop in summer on either diet Rickets can be cured by codliver oil and by exposure to sunlight, or to the radiation of the mercury vapor quartz lamp The first six months of life is a period of special susceptibility to the onset of the disease Rickets may develop in an infant whose general condition is good or improving, and healing of the bones may occur independently of improvement in the general condition

Melanoma of Gum—Stewart and Phillips relate a case which is interesting as an example of melanoma arising in an unusual situation the alveolar margin of an edentulous upper jaw The patient's attention had only been drawn to the part ten days before she sought medical advice, and the denture itself was not roughened A small projecting spicule of bone was found at operation, growing from the jaw immediately beneath the tumor

Agglutinating Serum for Tubercle Bacillus—By injecting into rabbits a nonvirulent strain of living human tubercle bacilli in increasing doses at five day intervals, Smith secured a high titer serum After the sixth dose, the titer of the serum against the homologous strain was 1 1,600 Of eleven strains of human tubercle bacilli tested against the serum seven reacted to a 1 200 dilution, five to a 1 1,600 dilution

Diagnosis of Suprarenal Insufficiency—It is shown by Wright by an investigation of 100 healthy subjects that the white line of Sergent is a phenomenon occurring in a large proportion of normal subjects and is without pathologic significance A number of analogous physiologic responses are described The white line is not related to suprarenal insufficiency or to abnormally low systolic or diastolic pressure The white line is produced by local emptying of the capillaries from the active contraction of some elements in their walls, and is quite independent of the condition of the

arterioles A nervous mechanism of the nature of an axon reflex may be involved The bearing of this investigation on the clinical recognition of suprarenal insufficiency is discussed

Archives de Medecine des Enfants, Paris

June 1922 25, No 6

*Foreign Bodies in the Duodenum V Veau and R Doubrere —p 321
Case of Lymphogranulomatosis H Barbier et al —p 338
Congenital Occlusion of Small Intestine A Rendu and P Wertheimer —p 349
*Acute Articular Rheumatism P Gautier —p 354
Crossed Intercostal Zona After Pleurisy G Schreiber —p 357
*Familial Hypertrophy of Bones Pleonosteosis J Comby —p 360

Foreign Bodies in the Duodenum—Veau exposed the duodenum of an 11 months infant who had a safety pin arrested at the spot the point upward He did not venture to cut into the duodenum, but merely manipulated it to dislodge the safety pin and squeeze it shut Attempts to force it along failed The safety pin was found in the stool the sixty-fifth day after the operation, the eighty-third after it had been swallowed He summarizes 21 operative cases from the literature, and 10 others in which the foreign body was found in the duodenum at necropsy The foreign body was a safety pin in only 4 of the cases and only 8 of the patients were children In 7 cases the duodenum was incised, with one death A gastro-enterostomy completed the operation in one case In the 6 cases with peritonitis already installed, 50 per cent died With infants, an incision across the fibers of the rectus gives more material for suturing Evisceration should be avoided in infants as this entails shock The suture threads should be left unusually long, up to twenty-one days The foreign body was worked back into the stomach in 6 cases with recovery in 4, in the fifth case the perforation of the duodenum had escaped detection

Complications of Acute Rheumatism—The boy of 6 was discharged the fifth week after the onset of acute articular rheumatism, during the course of which there had been endocarditis, pericarditis pleurisy and chorea He had been given 3 gm of sodium salicylate daily for two weeks and then smaller doses for ten days with digitalis and ice to the head as needed The only relic left of the whole is a mitral insufficiency

Familial Disease of Ossification—The family described here was reported by Leri last year, as summarized in THE JOURNAL at the time, Nov 5 1921, p 1526

Bulletin de l'Academie de Médecine, Paris

June 6 1922 87 No 23

*Uterine Fibromas T Tuffier —p 509
Experimental Anaphylactic Shock by Respiratory Apparatus F Arloing and L Langeron —p 604
Center for Boarding Out of Infants under Medical Supervision Guinon et al —p 607
*Clamps in Abdominal Surgery Abadie and Argaud —p 612
*The Soil in Tar Cancers G Roussy —p 617
Case of Adams Stokes Disease O Josue —p 621
Mechanism of Acceleration of the Pulse W Janowski —p 625

Uterine Fibromas—Tuffier insists that roentgen castration is contraindicated for women still in the child-bearing age He argues that enucleation should be given the preference always except when conditions otherwise justify hysterectomy The one great objection to enucleation has been the danger of recurrence, but now that irradiation can combat any recurrence, this objection is removed

Clamps in Abdominal Surgery—Abadie and Argaud used the Mayo and other clamps in their experimental research on dogs, and announce that the crushing—instead of killing the tissue cells, as they expected—seemed to inspire them to more active repair than when the tissues were merely sutured without being clamped The denuded portions healed over more rapidly Linen thread tore through sometimes but chromecized catgut 00 answered all requirements The Martel technic gave more regular and prompter results than the Mayo

The Soil in Tar Cancer—Roussy obtained tar cancers in 38 per cent of sixty adult mice by the end of 240 days Benign tumors had developed in 26 per cent, and 23 per cent had shown no signs of a tumor In nineteen of the sixty mice multiple tumors developed malignant in fourteen The difference in the outcome must be ascribed to the soil

Journal d'Urologie, Paris

May 1922 13, No 5

*Genito Urinary Reflex Phenomena J M Bartrina (Barcelona) —p 337
*Renorenal Reflexes Lanzilotta —p 343
*Hematuria with Hydronephrosis Z Mitsinkides —p 349
*Cystoscopy with Chyluria Hartmann Keppel (Suez Canal) —p 359
Another Case of Syphilis of the Bladder A Cosacesco —p 365
Danger of Ordering a 'Twenty Thousandth Solution or the Like J Janet —p 367

Reflex Phenomena of the Genito-Urinary Apparatus—Bartrina reported last year a case in which the abnormal position of one kidney checked the functioning of both kidneys, and the menacing uremia was cured only by removal of the malplaced kidney But the other kidney is not the only organ that suffers from an inhibiting reflex starting in the urinary apparatus The genital and the digestive apparatus may feel the effect, as also the other elements in the urinary system Among these reflexes, pain or tenesmus in the bladder early in renal tuberculosis is exceptionally instructive Disturbances in the urethra and prostate are common with calculi in kidney or ureter This 'false urethritis" with unsuspected calculi in the kidney often proves misleading There is pain or smarting in the urethra, and there may be secretion, but the gonococcus is not found The ordinary bacterial flora may then set up inflammation, or the local treatment applied on a mistaken diagnosis may start it

The neuralgia character of the pain stamps these reflex cases as a group apart They persist refractory to treatment until the calculus ceases to give further trouble Pain in kidney or urethra may be noted in gout, diabetes, phosphaturia, etc, probably from some old damage of the kidney with which it still has to contend The kidney often suffers in the uric acid oxalic acid and other diatheses There may be no symptoms in the kidney itself, but its intimate nervous connection with the genital apparatus may readily explain certain instances of impotency, spermatorrhea, and other functional disturbances, as of reflex origin Intestinal disturbances traceable to reflex action from unsuspected kidney stones range from simple constipation to pseudo-occlusion and spasmodic pains One of his patients with known kidney calculi sometimes had to take enemas a dozen times a day to relieve his returning colic Another barely escaped a laparotomy for ileus by the discovery of a few erythrocytes in his urine In all these bowel cases the complete cure followed the clearing out of the calculi from the kidney Pain spreading from the bowel to the rectum and anus is particularly suggestive of a kidney calculus Injection by the rectum of an anodyne relieves the pain with true kidney colic better than by ingestion or hypodermic

Renorenal Reflex—Lanzilotta reports five cases in which the pains from a diseased kidney were localized exclusively in the other kidney which was sound After removal of the calculi or of the whole kidney, there was no further pain on the other side

Profuse Hematuria with Hydronephrosis—Five cases are described They had mostly been mistaken for cancer, but recovery followed nephrectomy

Cystoscopy in Chyluria—The cystoscope revealed that the chyluria was not as independent as assumed In the three cases described, treatment with hexamethylenamin and uva ursi was followed by an exceptionally rapid cure

Médecine, Paris

June 1922 3, No 9

*Progress in Electroradiology and Physiotherapy A Zimmern —p 645
*Static Electricity in Treatment of Knee E J Hirtz —p 660
Radiotherapy in Cancer of Uterine Cervix R Ledoux Lebard —p 666
Operating for Calculus Under Roentgen Control F Arcelin —p 668
Recent Progress in Locating Gallstones H Beclere —p 672
Relations Between Doctor Radiologist and Patient Lehmann —p 678
*Electric Accidents A Zimmern —p 684
*Electricity in Treatment of Urethra Disease Heitz Boyer —p 690

*The Galvanopsychic Reflex J M Lahy —p 696
Indications for Mineral Waters in Chronic Rheumatism A Florand —p 707
Manual Treatment of Functional Spasms L Durey —p 709
The Dose in Radium Treatment R Weill —p 714
Electrotherapeutics in Constipation A Berthomier —p 719

Radiotherapy—Zimmern exclaims that every day is recording new progress in technic, in diagnosis, in therapeutic application of radiant energy, so that radiology is establishing more and more its position as one of the strongest pillars of the medical sciences The deep roentgen ray treatment is nothing new he says, but the logical development of our knowledge of the properties and biologic action of the roentgen rays In pruritus and radicular neuralgia roentgenization of the roots involved, where they emerge from the spine has cured in a number of rebellious cases as also in radiculitis of the sciatica or lumbago type With deep roentgen therapy, there seems to be an optimal dose for each kind of affection, but this may vary with the individuals in each class In diagnosis, Sicard obtained instructive findings by injecting an opaque iodin compound into the epidural space or spinal canal as it worked its way into the sacral culdesac For pyelography, a 30 per cent solution of sodium bromid *has been found efficient, while it has the advantage of being* nontoxic

Hydrarthrosis of the Knee—Hirtz relates that a prompt cure was effected by roentgen exposures plus static electricity in all but one of twenty-four cases of acute or chronic hydrarthrosis, and great improvement was realized even in this one case A tuberculous element is probably responsible for the partial failure in this patient The list includes several cases of gonococcus origin

Prophylaxis of Electric Accidents—Zimmern urges that children in school should be systematically taught the danger of placing the hand on a gas or water faucet when an electric wire is held in the other hand

Electricity in Treatment of the Urethra—Heitz-Boyer recapitulates the many uses for static electricity, diathermia spark treatment, *etincelage,* in acute and subacute affections of the urethra, and in sclerosis by *etincelage* or electrolysis and in destroying polyps and other mild tumors In short he adds, there is scarcely any lesion in the urethra that is not amenable to some form of electric treatment

The Galvanopsychic Reflex—Lahy discusses the differences in the galvanometer readings when connected with a human body and generator The resistance of the body to the electric current varies even with mere emotions and this galvanopsychic reflex is thus one of the most sensitive means at our disposal for investigating emotion It is significant that the response is most pronounced when the electrodes are placed on a region where sweat glands most abound

Revue de Chirurgie, Paris

1922 **60,** No 1

Burns and Their Treatment. A Kotzareff —p 5
Angles of the Colon in the Fetus and the Newly Born P Descomps and R Ducastaing —p 30
Dead Bone Implants C Girode —p 60

Burns and Their Treatment—Kotzareff recalls that animals die from burns just the same whether the nerves innervating the region have been severed or not They succumb to poisons generated in the burned tissues unless they can manufacture antibodies or have them supplied from without promptly enough to annul the toxic action Serum from a guinea pig that had been burned, and had produced antibodies, when injected into another guinea-pig protected it against fatal harm from a burn experimentally induced afterward, even when more than half of the body was gradually subjected to a burn of the third degree Fourteen series of experiences in this line are reported, with other data which all demonstrated, he says, that serotherapy is capable of warding off the toxic action from a burn the toxemic shock, which is the main factor in the fatal outcome of burns He urges the systematic production and use of an antiburn serum It can be obtained from patients convalescing from burns or can be prepared from animals Two clinical cases are described in which the recovery of the boys of 8 and 5½ is ascribed to the intramuscular injection of 5 or 8 c c of serum from other children convalescing from burns The reaction to a severe burn is manifest in fifteen minutes by the eosinophilia in the lungs This is not special to burns, being found in all endogenous and exogenous intoxication from destruction of animal tissues This destruction, however, entails an immunizing process in time, and this we can hasten by injecting an antiburn serum The question now is merely the production of an antiburn serum so it can be readily available at all times

Disadvantages of Dead Bone Implants—Girode writes from Delbet's surgical service to describe the experience with a dead bone implant in treatment of fifteen cases of pseudarthrosis or fracture of the neck of the femur The bone was taken from the tibia or the ulna of just slaughtered cattle and was kept in alcohol The results were extremely unsatisfactory for a number of reasons Delbet has returned to his former method of taking a strip from the patient's own fibula for the purpose without periosteum

1922 **60** No 3

Recurring Inguinal Hernia Oudard and G Jean —p 143
Mixed Tumors in the Parotid Region E Forgue and G Roux —p 181

Recurring Inguinal Hernia—Oudard and Jean tabulate from the navy surgical records 145 out of a total of 183 cases of known recurrence of inguinal hernia after operative treatment The recurrence was external oblique in 131 instances direct in 13 and internal oblique in only one case No method of treatment was exempt from recurrence, even when done under the most favorable auspices These experiences teach the necessity for supporting the wall after the primary herniotomy if the tissues are exceptionally flabby, not with a pad merely an elastic band The sac should always be amply opened up to see that there is no adhesion, and any epiploic fringe should be resected The percentage of recurrence with the various methods of operating ranged from 1 to 10 per cent The number of recurrences with the Bassini operation have convinced them that this method should be definitively abandoned The Championniere method is as good as the most complicated for ordinary hernias of the congenital type with a long narrow canal With hernia of other type they commend a modification of Halsted's first method

Mixed Tumors of the Parotid—Forgue and Roux review twenty two cases

Archivio Italiano di Chirurgia, Bologna

May 1922 **5** No 3

Pseudocyst in the Radius L Baccarini —p 233
Accessory Interrenal Body Removed at Herniotomy U Stoppato —p 253
Chronic Primary Pancreatitis D Calzavara —p 262
Limits of Prostate Operability G Roello —p 289
Tuberculous Peritonitis C Decio —p 311

Pseudocyst in the Radius—The head of the radius was resected in the boy of 6 and the findings suggest that some injury of the vessels had allowed the escape of blood into the bone these repeated small hemorrhages prying apart the lamellae They drop into the marrow cavity and are absorbed This sequence may occur from trauma, but more often it is the result of some toxic or developmental anomaly of the artery wall This explains best the gradual regular increase in the size of the cystic cavity Scraping out the cyst removes the altered bone tissue and the abnormal vessels and leaves a clean cavity and there is a chance it will fill up with normal compact bone These pseudocysts appear during the period of most active growth of the long bones, and in the region of the bone close to the epiphysis, where the growth process is most active The lesion is usually single and is cured by simple curetting, if the safeguarding of the region can be counted on during the months of the repair process

Chronic Pancreatitis—Calzavara relates that the woman of 31 after a hearty meal, experienced a sudden intense pain in the epigastric region which did not spread The pain ceased suddenly and spontaneously in two hours, but it

returned again for seven days, either from two to four hours after eating, or during fasting There was no vomiting, fever or jaundice There was a free interval for three years, and then the pains returned as before, recurring during two weeks A year later they reappeared for three and later for seven days, the interval finally becoming only one month At the last attack there was vomiting and a slight tendency to jaundice An operation showed a chronic, evidently primary, circumscribed interstitial inflammatory process in the head of the pancreas He did not attempt resection, and merely provided an ample outlet for the bile by suturing the fundus of the gallbladder to the anterior wall of the stomach in the prepyloric region There has been no return of the disturbances during the more than a year since and the general health has been perfect The case confirms that a primary pancreas disease may simulate gallstone colic The lack of spreading of the pains helps to differentiate the pancreatitis There were foci of fat necrosis in the omentum in this case, with atrophy of the adipose tissue with polyblastic infiltration

The Limits of Operability with Prostate Disease—Roello analyzes 520 operative cases of hypertrophied prostate in Lasio's service since 1909 With the Freyer operation, 469 were cured and fifty-one died, but the mortality has been constantly declining, from over 14 in 1909 to 4 55 per cent in 1921 There are no contraindications to the Freyer operation he says, except grave valvular or heart disease with lost compensation, or tabes or myelitis interfering with the innervation of the bladder or extreme wasting disease or acute infectious disease Under all other conditions the operation at one or two sittings has every prospect of success

Surgical Treatment of Tuberculous Peritonitis—Decio relates that 19 are still living of the 31 operative cases he describes in detail The outlook seems to be promising for a combination of radiotherapy or heliotherapy with operative measures In over two thirds of the cases the peritoneal tuberculosis subsides after the laparotomy, especially the serous form of tuberculous peritonitis Of course, the patient may succumb to tuberculous lesions elsewhere, after clinically normal conditions have been restored in the peritoneum He analyzes recent literature on the subject The 31 cases cited are the only ones he has been able to trace of the 50 operative cases during the last ten years in Ferroni's service at Florence The patients were all women between 22 and 55 except 2 girls of 15 The age seemed immaterial for the results, as also whether a drainage tube was left or not In his latest series he closed the abdomen completely after the exposure of the peritoneum to the light and air during the laparotomy He compares the various theories that have been advanced to explain the action of the simple laparotomy, inclining to ascribe the effect to the 'modification of the humors" by the operation

Riforma Medica, Naples

May 22 1922 **38** No 21

*Indol in Pulmonary Disease O Cantelli—p 481
*Evils of Taxis for Hernia R Botteselle—p 483
*Hydatid Cyst of Liver O Cignozzi—p 485
Primary Soft Chancres on Tongue G Martini—p 490
Preventive Treatment of Neurosyphilis G Pellacani—p 491
Lumbago and Sciatica E Arevoli—p 493

Formation of Indol in Destructive Pulmonary Lesions—Cantelli's research on rabbits in 1915 confirmed that indol was excreted through the skin after injection of indol His research here reported on patients with pulmonary lesions apparently establishes that indol in the breath and in the sputum is a sign of a suppurating and destructive lesion in the lung It was never found with pulmonary or bronchial lesions not accompanied by suppuration, and it seems to be responsible for the fecaloid odor in the destructive process Indol in the urine warns of a suppurating and putrefying process somewhere in the body

Evils of Taxis of Hernia—In the case reported, the strangulated hernia was reduced by taxis without the strangulation being corrected or even suspected This is the great danger of taxis except as a preliminary when all is prepared for an operation In this case the man was a deafmute, and the symptoms of ileus were all that was known of the circumstances

Operative Treatment of Echinococcus Infection of the Liver—Cignozzi reports 2 deaths and 3 cases of recurrence in his 50 operative cases of hydatid cysts in the liver and 8 in the lungs In 4 other pulmonary cases, no operation was attempted This experience has demonstrated the advantages of suturing the cyst to the abdominal incision, with capillary drainage The extensive defect left can be readily corrected with a plastic operation In one case in which the hepatostomy opening is illustrated, the cyst measured 16 cm in depth Notwithstanding this large size, the cyst was easily reached through a parirectal incision and marsupialized The cyst cavity is packed with dry gauze for ten days and then with gauze dipped in an acid alcohol solution The cyst membrane shrivels and is cast off spontaneously in from eighteen to twenty days The temperature usually runs up after the fifth or six day, from resorption, but returns to normal after the membrane has been cast off The gauze aids in stimulating granulation so that the healing is complete in from seven to eighteen weeks A plastic operation to close a large defect has been applied in 140 cases, and always with most satisfactory outcome The fluctuation is rendered evident as the patient lies on his side on the table or bed, without a pillow and the physician places his right fingers on the lower part of the liver region while with the other hand he depresses the wall, 4 or 5 cm above telling the patient not to breathe By this means a wave of fluid can be dashed back from hand to hand, a constant and pathognomonic sign of the cyst below The cyst tends to spread forward wherever its origin Eosinophilia is found in 60 or 80 per cent of the cases, and the intradermal reaction in 90 per cent but the fixation of complement test is positive in about 93 per cent The urine sometimes contains albumin and tube casts

May 29 1922, **38** No 22

The Serum Proteins in Pulmonary Tuberculosis F Durand—p 503
Histology of Experimental Benzol Poisoning G Brandino—p 506
Stovain Spinal Anesthesia I di Pace—p 508
Stab Wound of the Mesentery F de Gironcoli—p 510

June 5 1922, **38**, No 23

*Early Diagnosis of Apical Disease I Jacono—p 529
Surgical Treatment of Tabetic Gastric Crises D Giordano—p 530
Epigastric Pain with Hemoptysis C Cantieri—p 531
*Spastic and Plethoric High Blood Pressure C Trunecek—p 534
*Inheritance of Disease P Mino—p 535

Early Diagnosis of Apical Disease—Jacono adds palpation through the axilla to Boeri's four signs of incipient apical disease namely, the auscultation findings after massage of the apex, tenderness of the chest wall in the apex region, defective or excessive development of the muscles in the region, and the pupil phenomena Jacono pinches the muscles through the intercostal spaces, in and below the axilla, on both sides In health this gentle pinching is scarcely noticed but with apical disease below, it causes lively pain If the glands feel large and tender, this is further evidence of a lesion in the apex These changes might be explained by toxic neuritis, reflex neurotrophic disturbance, or involvement of the pleura

Surgical Treatment of Tabetic Gastric Crises—In Giordano's patient the gastric crises were essentially motor disturbances, and he severed the vagus at the diaphragm, supplementing this with gastro-enterostomy and dilaceration of the sympathetic fibers accompanying the celiac trunk nerve The young woman had been confined to bed for a year, the gastric attacks returning every two or three weeks, and lasting from three to ten days The rebellious vomiting had sapped all her strength After a two months' interval, the vomiting attacks returned, but the food was passed on and retained, and the attacks could be arrested with chloral Of late they have been growing less severe and less frequent, but pains in the legs have been growing more severe

Epigastric Pain with Hemoptysis—Cantieri warns that this combination of blood issuing from the mouth and pain in the epigastrium is liable to be mistaken for a bleeding ulcer in

the stomach or duodenum In one young woman, intermittent epigastric pain, tenderness, dyspepsia, and blood issuing from the mouth accompanied the menstrual periods Finally rales and blood streaked sputum corrected the diagnosis In another case the epigastralgia and dyspepsia were not accompanied by any signs of tuberculosis, but the conditions under which the hemorrhage appeared testified to its hemoptysis nature, corroborated by the ultimate fatal course of the case The epigastralgia disappeared after a few months The solar plexus evidently suffers from the tuberculous toxins and decalcification This plexus is also liable to be compressed by tuberculous suprarenals In another case, the patient was sometimes waked in the night by blood in her mouth and a tickling in the throat, occasionally this occurred in the daytime An apical affection had been diagnosed, but the persisting good general condition during the year finally led to search elsewhere, and a varicose vein was found in the throat The young woman was hysteric and had varicose veins on the legs and varices in the vagina When the temperature rises and keeps high after the hemorrhage, this tips the scale in favor of a tuberculous process The lack of physical symptoms should not mislead the physician Blood in the stools is *no criterion, as blood from the lungs may be* swallowed Radiography may give the clue when all else fails The gastric pain in these hemoptysis cases may deceptively simulate the classic pain with gastric ulcer He warns against the unconscious tendency of the patient and family in such cases to mislead the physician away from the idea of the more serious lung disease, by emphasizing the gastric ulcer features of the case

High Blood Pressure—Trunecek discusses the type in which the high blood pressure is the result of spastic contraction of certain parts of the blood vessels, and the type for which a plethora of blood is responsible In both these forms, food that leaves toxic waste should be avoided, and hygiene in general enforced If this does not cure, then the acids in the blood should be neutralized with a harmless alkaline solution For this he commends the fluid known as Trunecek's serum It is a combination of all the alkalines normally in the blood serum, and in the same proportions From five to ten injections, each of 2 or 5 c.c of this repeated twice a week are generally successful In older persons with long chronic high pressure of these types, the course must be longer In prophylaxis, a course of chlorid and bicarbonate mineral waters, once or twice a year for two or three weeks, and iodids to promote oxidations may be useful, with Trunecek serum at need

The Mendelian Laws in Inheritance of Disease—Mino remarks that at present all that can be done is to accumulate data in this line, for the deductions of a following generation But the individual must compile the data with criteria and methods which will render their utilization possible

Cronica Medica, Lima, Peru

April 1922 39 No 706

*Bio ociologic Progress in the Americas R. J Fosalba—p 111
Stenosis of Larynx Following Smallpox A Flores—p 136
Amebic Interstitial Hepatitis C Monge—p 139
The National Public Health Service in Peru—p 157

Synthetic Program for Biosocial Research—This is Fosalba's inaugural address on election to the Academia de Medicina of Peru He states that the compulsory physical training which was introduced in Uruguay fifteen years ago has already increased the average height of the young by 17 mm Up to 15, the height surpasses that of corresponding ages in Europe and the United States He adds that Uruguay has made a greater reduction in the death rate from tuberculosis than has been realized in European countries The efforts have been concentrated mainly on the "pretuberculous," striving to eradicate the predisposing factors He describes what has been accomplished to date in concrete biosociology in the Latin American countries and the results of his own investigations

Amebic Hepatitis—Monge classifies hepatitis in six groups, the acute, the jaundice-inducing, the chronic, the tuberculous, the syphilitic and the toxic He describes a case of acute interstitial hepatitis in a man of 32, who had lost 30 pounds in weight during the eight months of agonizing pains in the enormously large liver Repeated punctures were negative, and cancer of the liver had seemed certain Notwithstanding the absence of amebas in the stools Monge gave tentative emetin treatment and a complete cure followed in less than a month Before the end of the month he found some encysted amebas in the stools He does not know of any similar case on record of amebic hepatitis, simulating cancer

The Problems Before the Public Health Service in Peru—This is the letter of acceptance of Dr Henry Hanson, an officer of the United States Public Health Service when he was recently appointed chief of the national public health service in Peru

Revista Española de Urologia y Derm, Madrid

March 1922 24, No 279

Stigmata of Chronic Gonorrhea in Women L del Portillo—p 113

The Stigmata of Chronic Gonorrhea in Women—Portillo gives a list of seven stigmata liable to be found in the vulva of women who have had gonorrhea at some time, six in the vagina and four in the urethra He lists among the vulvar stigmata adhesion of the opposite walls This is very rare, it follows only severe inflammation Papillary excrescences may be found in the vulva vagina or urethra and although these may be due to other causes yet the presumption is in favor of irritation from chronic gonorrhea as a rule Cysts in the wall of the vulva or vagina can be felt as small torpid bunches never causing pain but they may grow to quite a size and they may become infected and rupture They must not be confounded with bartholinitis Hyperesthesia of the vulva and hypertrophy of the walls of the vulva and vagina are further suggestive as also narrowing of the passage in either a phlegmon in the vaginal wall and vaginism Partial stenosis of the vagina or urethra is also suggestive of irritation from chronic gonorrhea The relics of gonorrhea in the uterus and adnexa are familiar to all from metrorrhagia cysts adnexitis refractory to vaccines, and sterility to the complications of childbirth

Semana Medica, Buenos Aires

April 27 1922 1, No 17

The Indications with Emergency Delivery T A Chamorro—p 657
Arterial Anesthesia B N Calcagno—p 661
*Bacteriophagia C E Pico—p 675
Surgical Treatment of Chronic Hydrarthrosis J Moreno—p 679
Pay Patients in Public Hospitals J G Ruiz—p 681
Prophylaxis of Cancer F Igea.—p 691

Arterial Anesthesia—Calcagno trephined an osteomyelitic focus in the tibia of a boy of 16 under the anesthesia induced with 0.2 gm of stovain in a 0 5 per cent solution, injected directly into the femoral artery through the skin He sometimes expels the blood from the limb by winding it from the toes to the root beforehand In one man of 52 the anesthesia was complete with only 0 12 gm of procain allowing amputation of the leg for syphilitic gangrene He describes a number of other major operations on the legs done under arterial anesthesia For the arm, it is safer to expose the artery before making the injection, or a retrograde injection might be made in the radial artery The only contraindication is infection in the region where the artery is to be injected The needle hole closes spontaneously afterward

Bacteriophagia—Pico's experiments are the first to be recorded he says in which the bacteriophagic action was induced with pancreatin, trypsin or papain instead of a filtrable virus as in the experiments of others The bacteriophagia is thus a transmissible autolysis of micro-organisms, accelerating the normal autolysis of the bacteria The regeneration of the lytic principle at the expense of the disintegration products of the bacteria explains the serial character of the autolysis This, he explains may serve as the basis for a new bacteriologic therapeutics, a lysinotherapy, based on a more general conception of the bacteriophagic phenomenon than d Herelle visioned

Deutsche medizinische Wochenschrift, Berlin

May 19 1922, 48, No 20

Place of Vitamins in the Nutritional Therapy of Children's Diseases E Schiff—p 651
Heredity and Constitution K H Bauer—p 653
Allergy Experiments on Bacteria A Schnabel—p 654
*Syphilitic Hydrocephalus in Children Cassel—p 655
*Drinking Water and Goiter Incidence E Miesbach—p 657
Multiple Neuritis During and Since the War A Knapp—p 659 Conc n No 21 p 692
Case of Homosexuality Cured by Implantation of Testis E Pfeiffer—p 660
Palliative Treatment of Hay Fever C Dietsch—p 662 Begun No 19 p 631
Causal Morphology and Practical Medicine G Ettisch—p 662
Gallstones and Gastric Ulcer G Ledderhose—p 664
Intra Uterine Technic in Diagnosis and Treatment H Freund—p 666

May 26 1922 48, No 21

Significance of Tuberculous Allergy for Proteotherapy and Inflammation K Zieler—p 685 Reply H Selter—p 686
Observations of Practitioner on Arsphenamin and Mercury Kromayer—p 686
Curvature of the Diaphragm in Roentgenogram E Thomas—p 688
Treatment of Lung Gangrene with Special Reference to Arsphenamin Therapy F Peemoller—p 690
Ileocecal Tuberculosis Perforating into Bladder Reh—p 692
Multiple Neuritis During and Since the War A Knapp—p 692 Conc n
Cyst of Sheath of Ulnar Nerve J P zum Busch—p 694
Freezing in Staphylococcus Infections Bockenheimer—p 694
Simple Method of Determining Leukocytes in Urine Tannenbaum—p 695
Quartz Glass and Rock Crystal in Bacteriology Jungblut—p 696
New Thoughts on Treatment of Carcinoma J Wolff—p 697
Acute Peritonitis G Ledderhose—p 698
Hemorrhages in Gynecologic Practice H Freund—p 699

Chronic Hydrocephalus in Children—Cassel has found the prognosis of syphilitic hydrocephalus, as a rule, unfavorable. A number of children succumb to the cerebral symptoms without securing any benefit from energetic antisyphilitic treatment. A complete cure is rarely accomplished. Most patients retain at least mental defects that are more or less marked, many become grave neuropaths that are a great burden to their family. However, in spite of the unfavorable prognosis in most cases, in no case should energetic treatment be neglected.

The Iodin Content of Drinking Water in Relation to Goiter—Miesbach has conducted investigations in Bavaria which lead him to believe that the lack of iodin in the drinking water in certain regions may possibly be the cause of the increased incidence of goiter in those sections.

Klinische Wochenschrift, Berlin

April 1 1922 1, No 14

Bases and Significance of Physicotherapy for Internal Medicine Goldscheider—p 665
The Intravenous Injection of Drugs in Oil Lepehne—p 670
Myoelectric Researches on Affections of Corpus Striatum E Rehn p 673
Scoliosis and Abnormal School Postures H Maass—p 675
Partial and Total Rhinoneoplasty J Joseph—p 678
Inflammation Allergic Immunity and Anaphylaxis Klinkert—p 680
Effect of Quartz Lamp Irradiation on the Susceptibility of the Skin to Pain F von Groer and W von Jasinski—p 683
Bulbocapnin Catalepsy H de Jong—p 684
Isolated Paralysis of the Axillary Nerve Due to Carbon Monoxid Poisoning E Mendel—p 685
Indications for Therapeutic Hypnosis F Lange—p 686
Treatment of Soft Chancre C Bruck—p 689

Medizinische Klinik, Berlin

June 4 1922 18, No 23

Infectious Gastro Enteritis in Infants A Reuss—p 717
*Sterility in Women H R Schmidt—p 722
The Initial Pains with Ulcer S Jonas—p 723 Conc n No 24 p 761
Warning Against Attempt to Tie Up Natural Openings by Tunneling Skin E Sachs—p 727
*Swine Erysipelas in Man Gestewitz—p 729
Polyvalent Anticatarrh Liniment F Grosmann—p 729
*Cultivation of Tubercle Bacilli Meyer and Fitschen—p 730
*Thallium and the Endocrine System A Buschke and B Peiser—p 731
*Convulsions in Infants K Bluhdorn—p 733
Treatment of Various Genito-Urinary Affections E Portner—p 734
*Present Status of Protein Therapy J Voehl—p 736

Sterility in Women—In the course of this dissertation on the prospects of treatment of sterility, Schmidt says that when stenosis of the cervix seems to be responsible for the sterility, the best results have been attained by Fehling's rinsing treatment. A fenestrated glass tube, the size of a lead pencil and about 5 cm. long, is introduced into the cervix. It is slightly curved, and a glass plate prevents its slipping into the uterus. It is worn for three days, and then the uterus cavity is rinsed out with a 1 per cent. solution of liquor formaldehydi. The tube is replaced for three days, and this is repeated two or three times, rinsing the uterus in this way at each change. This induces a moderate astringent action on the mucosa and the os is mechanically and permanently en ed, and the uterus accustomed to mechanical irr tation. regnancy followed in a recent series in 27 per cent. of tl fifty-six cases, and in 35 5 per cent. of another series of thirty-one cases.

The Initial Pains with Ulcer—Jonas' analysis of a long series of cases demonstrates that a sensation of oppression or cramp occurring in the stomach daily or almost daily for weeks, showing some connection with intake of food, and followed by long periods of freedom from disturbances, the whole displaying a seasonal character, suggests incipient gastric or duodenal ulcer. A period of excessive peristalsis precedes the actual ulceration in stomach or duodenum.

Treatment of Swine Erysipelas in Man—Gestewitz concludes from six cases of this kind that the disease in man is comparatively mild and local. It may heal under ordinary salves, but if not, the antiserum should be administered. In one of his cases certain general symptoms followed the eating of the well cooked meat of the diseased hog, but it is a question whether they were referable to serum sickness or to food anaphylaxis.

Cultivation of Tubercle Bacilli—Meyer and Fitschen report almost invariable success with the Dorset egg culture medium, shaking up the yolk and white together, and adding one-fifth part of water, and slanting the test tube in the incubator till it hardens. The usual preliminary treatment with an alkaline caustic kills off the accompanying bacteria. They close the tube with paraffin and stain a smear from the culture the fourth day, and every two or three days thereafter.

Thallium a Specific Poison for the Endocrine System—Young rats fed with bread dipped in a 1 5,000 solution of thallium acetate lost all their hair in a month. The growth was stunted, and the animals presented a cretin-like appearance. When the drug was injected, the toxic action was pronounced and often fatal. The endocrine glands showed a selective toxic effect, and the whole organism suffered secondarily through intermediation of the ductless glands. Buschke and Peiser do not know of any other substance that acts thus almost exclusively on the endocrine system. Experiments on tadpoles with thyroid treatment to counteract the thallium, and experiments on the frog heart have been confirmatory.

Treatment of Convulsions in Children—Blühdorn recalls that the convulsions of spasmophilia occur scarcely ever outside of the winter and spring, and that breast-fed infants escape as a rule. Infants overfed with milk, with a tendency to hard stools, are the predisposed, rachitis and spasmophilia have much in common. Overheating and prevention of radiation of heat are also liable to induce convulsions. An ample supply of fluids is imperative, poured into the stomach or rectum or infused subcutaneously. If chloral fails to relieve the spasmophilic convulsion, there is probably some organic cerebral process. Calcium treatment combats the spasmophilia effectually and the child can be fed as indicated. He prescribes it in the form of 10 parts calcium chlorid, 2 parts anisated solution of ammonia, 1 part gum acacia, saccharin to taste, and water to 200 parts. The dose is 10 c.c. six or eight times a day at first and then three times a day, kept up for a long time. Spasmophilia may accompany and aggravate organic disease, as in a recent case of convulsions in whooping cough. The electric and other tests were negative, and the convulsions seemed to herald the fatal termination. As a last resort, 20 c.c. of an 8 per cent. solution of magnesium sulphate was injected, and the benefit was amazing. In all organic cases, therefore, it is well to give tentative treatment for possible spasmophilia, to eliminate this factor, at least.

Protein Therapy—Voehl's summary of recent literature on parenteral protein therapy mentions chronic joint affections

and skin affections as the fields in which this method of treatment is proving most effectual Although there is no general agreement, yet the testimony already available is very encouraging, although we must not forget, he adds, that, with any new treatment, the favorable results are more liable to be published than the unfavorable

Munchener medizinische Wochenschrift, Munich

May 19, 1922 69, No 20

Modern Aspects of Diabetes K A Heiberg —p 731
Problems and Aids in Urology Pflaumer —p 733
Intravenous Use of Salicylic Acid E Herzfeld —p 735
Neo-Silver Arsphenamin in Treatment of Syphilis Zeller p 737
Operation for Cancer of Rectum T Kohler —p 738
*Roentgen Irradiation for Hypophysial Tumors and in Gynecologic Affections of Hypophysial Origin Blumberg —p 739
Silicic Acid in Infantile Tuberculosis Klare and Budde —p 741
Pepsin in Treatment of Leukoplakia G Trautmann —p 742
Case of Lingual Goiter K Zehner —p 747
Three Cases of Extragenital Syphilis F Schardon —p 748
Invasion of Bronchial Tree by Contrast Medium Forster —p 748
Methods of Recording Heredity Statistics W Weinberg —p 748
Accidents of Operations for Hernia A Krecke —p 750

Mesothorium Treatment of the Pituitary—Blumberg has applied mesothorium irradiation to the hypophysis in four cases, one case of hypophysial tumor, in which the result was very satisfactory, and three cases of dysmenorrhea of hypophysial origin, in two of which considerable improvement was effected, while in the third case no effect was noticeable Since the sella turcica constitutes, as it were, the roof of the sphenoidal sinus, he applies the mesothorium to the roof of the cavum pharyngonasale, as the most accessible point in close proximity to the hypophysis He describes his technic in detail

Wiener klinische Wochenschrift, Vienna

May 18 1922 35, No 20

Proteotherapy and Vaccinotherapy B Busson —p 451
Action of Arsenicals Adaptation of the Organism Thereto and Poisoning Therefrom K Ullmann —p 455 Cont'd
*Immunization of Guinea Pigs Against Typhus E Weil and F Breinl —p 458
An Error in the Prophylaxis of Stuttering L Stein —p 461
Description of the Ionometer J Christiansen —p 461

Inoculation of Guinea-Pigs with an Attenuated Typhus Confers Active Immunity on the Passively Immunized Guinea-Pigs—Weil and Breinl report their successful search for a method by which they are able by regulation of the dosage of virus, applied to guinea-pigs, to produce an "unapparent" infection which, however, results in active immunity They think that the method will probably be applicable to man, for Nicolle has already shown that the immune serum of guinea-pigs has a prophylactic effect on man On the other hand, it can doubtless be assumed that convalescents' serum is effective It is also fully established that guinea-pig virus will infect man In both of their virus strains, the infective doses which, following an afebrile course of the infection, produced a definite active immunity, lay between 0.001 and 0.0001 gm of brain substance The smaller amount would infect most of the controls but would not produce an active immunity in the passively immunized animals [Weil's name is familiar in the Weil-Felix test for typhus His untimely death from laboratory infection was recorded recently]

Zentralblatt fur Chirurgie, Leipzig

April 8, 1922 49, No 14

*Lymph Drainage in Elephantiasis Haubenreisser —p 474
*Gradual Dilatation of Stricture of Urethra Hammesfahr —p 475
*Recurrences After the Bassini Operation J Schwartz —p 476
Moeny's Method of Treating Vessel Injuries F Moeny —p 480
Is the Extirpation of Suprarenals in Epilepsy Justified? Comment H Kersten —p 482

Payr's Lymph Drainage in Elephantiasis Cruris—Haubenreisser reports two cases of elephantiasis cruris in one of which lymph drainage by the Payr method accomplished a complete cure and another case in which the same method brought about an almost complete cure

Gradual Dilatation of Stricture of Urethra—Hammesfahr states that in two cases of extreme narrowing of the posterior portion of the urethra following, in one instance an operation and, in the second instance, trauma, he was able to effect a cure by passing a small ureter catheter or wire by way of the cystotomy wound through the bladder into the urethra By this "endless" method he was able to pass rubber tubes of increasing caliber

Recurrences Following the Bassini Operation—Schwartz discusses a series of 500 operations for inguinal hernia by the Bassini method In 207 cases in which reexamination was possible after from one to eleven years, there were eleven recurrences, or 5.3 per cent Other series refer to from 10 to 20 per cent recurrences He describes the slight modification of the Bassini method that Friedemann employs

Zentralblatt fur Gynakologie, Leipzig

April 8 1922 46, No 14

*Collection of Cancer Statistics G Winter —p 529
*Sedimentation of Blood Corpuscles G Linzenmeier —p 535
Impregnated Ovum in Relation to Corpus Luteum Hofstatter —p 542
Etiology of Corpus Luteum Cysts K von Oettingen —p 548
Spontaneous Transformation of a Face Presentation into an Occipital Presentation in the Pelvic Cavity W Walz —p 554
Ovarian Therapy in Climacteric Toxicodermias J Hofbauer —p 558

New Basis for Cancer Statistics—The introduction of roentgen and radium therapy has made it necessary to adopt entirely different rules for cancer statistics, it being especially important that new statistics make possible a comparison of the results of operation with the outcome of irradiation Winter has drawn up a carefully worked out scheme for statistics on the modern cancer problem He gives the outlines of his plan

Speed of Sedimentation of Blood Corpuscles—Linzenmeier emphasizes again the diagnostic value of the determination of the suspension stability of blood corpuscles in gynecologic practice If the sedimentation time is accelerated, that is, if it is less than thirty minutes acute inflammatory processes affecting the genital organs may be suspected The changes in the sedimentation velocity will often furnish desired information when changes in the temperature leave us in the lurch In the differential diagnosis between recently disturbed ectopic pregnancy and acute adnexal and peritoneal affections slow sedimentation points with a high degree of probability to tubal pregnancy Sedimentation serves also as an excellent indicator as to the time for operative intervention in fixed retroflexion, chronic adnexal tumors and similar affections If sedimentation occurs in less than one hour virulent infective agents may still be present and we had better wait with the operation, if sedimentation requires two hours or more it is safe to go ahead with a laparotomy latent infection need no longer be feared The buffy coat or crusta phlogistica of the physicians of earlier centuries has again come into honor through Fahreus' revival of a well known diagnostic principle

Zentralblatt fur innere Medizin, Leipzig

April 8 1922 43 No 14

Stuttering in Relation to Asthma Reply L Stein —p 233

Nederlandsch Tijdschrift v Geneeskunde, Amsterdam

April 22 1922 1, No 16

Rhinopharyngitis Mutilans from Yaws B M van Driel —p 1604
*Standard of Nutrition for Children C J van der Loo —p 1611
Action of Procain on Muscle Tonus S de Boer —p 1621
*Flatfoot D Brocx —p 1627
Ovarian Metastasis of Cancer J A van Dongen —p 1630

Standard of Nutrition in Children—Van der Loo gives the formulas for the ten different methods in vogue for assessing the physical fitness of children and points out the fallacies of all of them from Pirquet to Dryer He then describes his own method which he affirms, comes nearer to the ideal than any of the others for sifting out the undernourished It is based on a standard table showing the normal weight and chest measure for a given height The difference between the chest measure and the normal figure is multiplied by —2.5 for each centimeter, and the difference in weight is multiplied by 4, 3 or 2 for each kilogram His table is made up from several thousand normal Amsterdam children His index is 100 times the weight divided by the square of the diameter of the chest multiplied by the height The circumference of the chest is 3.75 times the diameter He explains,

for example, that a child 114 cm tall, with a chest measure of 54 cm, weighs 16 6 kg The normal figures he gives for a child 114 cm tall are, chest, 55 6 cm, and weight, 19 2 kg The child is thus 2 6 kg too light and its chest 1 6 cm too narrow Multiplying —2 6 by 4, and adding —1 6 multiplied by —2 5 = 6 4 We thus get $\frac{64}{4}$ = 16 kg as the loss from underfeeding and 2 6 —1 6 = 1 kg the loss in weight from the narrow chest

Prophylaxis of Flatfoot—Brocx has been impressed in his sixteen years of sickness insurance practice with the number of cases in which flatfoot develops after some accident to the foot or sickness confining to bed for a time When the patients get up after this, flatfoot develops He ascribes this insufficiency of the foot to the weakening of the muscles from disuse, but above all to the fact that when the patient gets up, he wears loose, old shoes or slippers at first The weight-bearing, with the muscles thus weakened, invites flatfoot, but it can be warded off by having a special supporting sole in each shoe Walking is the best exercise to restore normal tone to the muscles, but until this is realized, the arch of the foot should be supported

April 29 1922 **1**, No 17

*Bacilli Carriers H Aldershoff —p 1680
*Simple Treatment of Hemoptysis J Geers —p 1688
*Induced Fever in Treatment of General Paresis A Gans —p 1693
Sachs Georgi Versus Wassermann Reaction D E Cohen —p 1698
Case of Abdominal Contusion A F Nordholt —p 1704
Intragluteal Injection of Turpentine in Treatment of Gonococcus Arthritis K A Rombach —p 1707

Bacilli Carriers—Aldershoff warns that in the attempt to detect bacilli carriers and bacilli holders it is very easy to overdo, and bring discredit on preventive medicine in general He advises to restrict the search to the cases in which the epidemiologic findings indicate a carrier of virulent germs It should then be legally possible to take the necessary measures Their aim should be to keep the carriers and holders out of occupations in which the danger for others is especially great Until we know of some simple and reliable method to distinguish between virulent and nonvirulent germs, there is no use or sense in wholesale examinations on a large scale for carriers"

Treatment for Hemoptysis—Geers is chief of the public sanatorium at Joure, and until 1917 had usually from 18 to 24 severe cases of hemorrhage from the lungs each year, with more than twice as many mild cases, and there was always at least one fatal case of hemoptysis during the year Since that year he has not had a single case of hemorrhage from the lungs, and he ascribes this success to the practice then introduced of giving milk by the rectum, as a readily absorbable solution of calcium Milk by the mouth clots, and its salts cannot be readily absorbed Solutions of calcium salts given internally or subcutaneously often fail The milk enema was the last resort at the twenty-third hemorrhage in his first case, after failure of the whole arsenal of other measures There seems to be a certain periodicity about hemorrhages from the lungs and by study of the pulse, the filling of the blood vessels, the color of the face, the size of the pupils and the subjective symptoms, it is not difficult to tell when hemoptysis is impending Then he begins at once with the enema of 250 gm of tepid milk every evening, having it retained as long as possible All the milk in the institution is always heated to 90 C The enema may be given mornings, too, if necessary In special cases a subcutaneous injection of gelatin may be advisable, but he has not found this necessary more than twice in the last four years He has had no opportunity to try this treatment in hemophilia, but it proved useful in a bleeding gastric ulcer case He advises the practitioner to inject the gelatin first and then follow with the milk enemas He warns against morphin as inviting aspiration pneumonia after hemoptysis

Therapeutic Inoculation with Malaria in General Paresis—Gans reports the application in nine cases of general paresis of Wagner-Jauregg's method of inducing a fever by inoculating with malaria It has been described as a system of therapeutic "driving out the devil with Beelzebub" Gans' experience was favorable, confirming Wagner's statements The effect in three of his cases, he says, was remarkable, the others were too far advanced for any hope of benefit In a comment on this article by G C Bolten (page 2107) he mentions that he had two patients with general paresis who had fever from tuberculosis, but this fever did not modify their general paresis He also mentions that in the East Indies malaria is common in Chinese workmen, but they often develop general paresis and tabes

May 6 1922 **1**, No 18

Pulmonary Tuberculosis in Children Cornelia de Lange —p 1768
Electrochemical Research on Cancer N Waterman —p 1780
Active Immunization Against Diphtheria Hulshoff Pol —p 1789
The More Recent Literature on Rachitis L Havinga —p 1793
A Pioneer Insane Asylum 1442 H Schade —p 1803

Diagnosis of Pulmonary Tuberculosis in Children—De Lange deplores the too frequent tendency of practitioners to decide that in a child, with a tuberculous lesion anywhere, a process in the lung must necessarily be of a tuberculous nature Even chronic lung processes with negative tuberculin tests are regarded as tuberculous, when in fact there is merely some infiltration and tendency to bronchiectasia As the lung clears up in time, the case is reported as an example of a brilliant cure under the treatment that had happened to be used at the time It is a grave blunder to send such children to a tuberculosis sanatorium A child under 8 with physical findings of such extent would rapidly succumb, if they were actually of a tuberculous nature There may be a small tuberculous focus with an encircling nonspecific infiltration The French "splenopneumonie" is one form of these chronic nontuberculous affections of the lung in children A chronic pneumonia may entail retraction, and in asthenic children the right subclavicular fossa is often sunken in Apical processes are rare in children, while a faulty attitude may induce deceptive physical findings The difference in the size of the two lungs may also prove misleading Extensive chronic lung processes in children under 8, which clear up or remain stationary, are not pulmonary tuberculosis She describes several typical cases in which only the ultimate recovery corrected the diagnosis

Hygiea, Stockholm

June 15 1922, **84**, No 11

Phlegmonous Conditions in Digestive Tract R Roman —p 433

Phlegmonous Inflammatory Conditions in Digestive Tract—Roman gives the tabulated details of 271 cases that he has compiled, and tabulates separately the group of 41 cases in which the intestinal wall was involved In the 41 intestinal cases, 9 were saved of the 12 treated by radical operation, but all died under medical treatment or palliative operation alone Fourteen cases were in the duodenum, all fatal, but one patient was cured by resection of the bowel involved in the 6 jejunum cases, and 6 of the 8 ileum or cecum cases Two others were cured by resection of the colon MacCallum, Dowd and Taylor-Lakin are the only Anglo-Saxon surgeons cited Death occurred in twenty-four hours up to thirty-nine days, the average duration being from two to five days In a case personally observed, the acute phlegmonous sigmoiditis proved fatal in one week In a second case, the phlegmonous inflammation extended over a long stretch of the ileum, and the man of 25 recovered after this segment had been resected The sudden onset of diarrhea, without pains, in the first case, contrasted with the severe colic pains and chills in the second case, without diarrhea or vomiting The young man returned to work for four days, but the pains and tenderness kept up and a laparotomy on the presumptive diagnosis of appendicitis revealed the phlegmonous changes and allowed the complete cure Both the men had been supposedly in perfect health before In the total 271 cases, 180 were men and 73 women, the sex of the others was not specified The mortality was 91 2 per cent in the 217 cases of phlegmonous gastritis, but was 100 per cent in the sigmoid, transverse colon duodenum and esophagus cases The acute onset and rapidly severe general symptoms are common to all localizations, and there seldom had been any symptoms before to call attention to the digestive tract

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SOCIALISTIC TENDENCIES IN MEDICINE *

JAMES A GARDNER, M D
BUFFALO

It is not my object to decry the benefits to humankind and to civic life which have come from some of the progressive movements brought about by sincere effort, but, in recent years, under cover of promoting the welfare of society or some part of it there have been permitted to be inaugurated many so-called reforms which, in reality, are little more than the outcome of the emotional desires of restless faddists or of the ideas of extreme and radical discontents

The contention is sane that all reforms of whatever nature should be made only after patient and scientific investigation of the causes and the cure of the evil sought to be corrected, and that the desire to bring about such reforms presupposes knowledge obtained by serious investigation and careful research, unhampered by emotion or prejudice

It is not an exaggeration to state that, in many instances, sincere and enthusiastic advocates of social and welfare legislation, so-called, are not familiar with the full purport or essential details of the measures they advocate It is not at all uncommon for boards of directors or other governing bodies, after a few moments' consideration, to announce support or opposition to legislation which has required weeks of study by men conversant with the subject before they are willing to pass judgment upon it Propagandists, through well-meaning people, have been doing much work among our law making bodies which, in the near future, will have to be undone

PROPAGANDISTS IN THE FIELD OF MEDICINE

The field of medicine has been a fertile one for the agitator and the propagandist The physician has always been ready to aid in measures for the betterment of humanity It is fair to assert that no other profession has been so lacking in self-interest It is perhaps due to this willingness to help in every movement for physical and moral advancement that the reformers and uplifters have been allowed to invade, unopposed, the practice of medicine and surgery, until the time has arrived for raising the danger signals The peril of the situation becomes more urgent when it is realized that the public is being educated to believe that the socialization of the medical profession will bring higher standards of health The fact is that, with the initiative and individuality of the physician removed the profession will cease to attract to it men of energy ability and ambition, who are now keeping American medicine in the front rank of intellectual and scientific achievement

The drift toward paternalism and pauperization is strong Benefident social workers have been working overtime to give us our Sheppard-Towner maternity bill, which will cost the taxpayers about $6,000,000 for five years Also a bill was introduced for the formation of a national board of health, with a seat in the cabinet providing for federation of all state, municipal, and county health officers, and placing them under a secretary of health at Washington It provides for a suitable central office for each health division and for regional hospitals and sanatoriums, to be supported jointly by the state and the federal government, so that adequate free facilities may be provided for all those suffering with infectious diseases, particularly tuberculosis as well as surgical diseases, in order that these diseases may be cured and eradicated Only $63,000 000 is needed to develop this idea

In New York State we have managed to escape the fetters of public health insurance for the time being, but we expect each year, that it will appear in the legislature under another name I shall not refer to the bills of this type that were introduced in the last Congress

CHARITABLE INSTITUTIONS

In the field of medicine, we find an increased number of public hospitals and charitable institutions, and there is an ever increasing attempt to build up, under governmental control and support, medical charities, in the nature of health centers, diagnostic clinics, bureaus of health insurance, compensation acts, and other like public activities for the purpose of caring for those who supposedly are unable to pay These medical charitable institutions however, are not confining their care to needy charitable cases, but, increasingly, by skilful advertising and other effective means, are bringing under their care those who are able to pay for medical treatment

The slogan of free health" has an alluring sound, but it is false in its concept The public needs protection, but primarily it needs education If the public were educated and knew what it is receiving, there would be no lodge practice or splitting of fees, and chiropractors and the other medical isms would disappear Faith in human nature leads many people to accept ideas from friends or take too seriously what they read It has always been an amazing anomaly that a man seeks and willingly pays for the highest degree of legal skill to protect his property, while he is willing to barter his life away to mediocrity

Prevention and education need the aid of the government, but the state should not compete with individual

* Chairman s address read before the Section on Urology at the Seventy Third Annual Session of the American Medical Association St. Louis May 1922

skill and superior knowledge and efficiency in the care of those who have money to pay and so should not be treated at public expense. The evil results are twofold. The medical profession will lose its motive and impetus to go forward, and, consequently, its standard will be lowered and its progress cease, and the patients who are treated free by the state will sacrifice their self-respect in their willingness to be pauperized.

The needy poor have always been cared for cheerfully by physicians, and it is reasonable to believe that this policy will not change. Many hospitals, and scientific laboratories have been established and the best facilities available have been installed to care for the sick when they are unable to pay. This class of patients is also desired by the college hospitals, where students are instructed by the best trained teachers. The college hospitals open their doors to the poor for this reason, and patients have the benefit of treatment by the most skilful physicians and surgeons in the community.

In the municipal or state-owned hospital, with its large financial backing, we find many positions for willing workers. Large buildings must be provided, with many beds, the more the merrier. Of course, if the management cannot keep these beds full, the number of employees must be cut down, so there is every inducement to care for as many patients as possible. Rivalry exists among these state-owned institutions to see which can hold the largest clinics. Naturally, the boards of trustees and the superintendents, if they have the money, will make every effort to develop large clinics, and the mere fact that a patient has plenty of money with which to compensate his family physician or a specialist for any treatment he may require will not interfere with his treatment free of charge if he is an "interesting case."

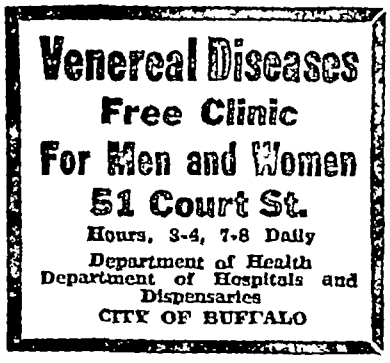

Fig. 1.—An appropriation of $2,500 a year was made by the city to carry this insertion in four of the daily papers.

HEALTH CENTERS

In Buffalo, the health center has been developed, and we have had ample opportunity to watch its growth. The department of hospitals and dispensaries is a well organized machine, 25 per cent of our physicians are serving with or without compensation, some on full time at from $1,500 to $3,000 a year.

In the urologic department, there has been a very rapid growth. By the expenditure of $2,500 a year for advertisements in the daily press, stating that patients are cared for free of charge, the treatments given were increased from 100, in 1916, to 24,949, in 1921. Urologists are employed at $760 a year for part time. One of our city urologists stated that he saw from fifty to seventy patients in a two-hour period three times a week. He accounts for the number of cases cared for by the excellent system. Gonorrheal patients irrigated themselves, the orderly massaged them and a nurse prepared the arsphenamin, so the urologist's only job was to insert the needle. There was no laboratory attached, and no smears or urine were examined. If the physicians wished these examinations made, the patients were sent to the city laboratory and reports made at a later date. Does any one think that these patients are *getting service*, even if it is free? There is no official dividing line between those whom they care for as free patients and those who are refused because of their ability to pay. An announcement has been made from time to time that any one making more than $20 a week will not be cared for. Therefore, those who came to the clinic in their automobiles never had an income of more than $20 a week.

With the necessity of seeing so many patients in such a short period, the dispensary physician must neglect his most important duty, that of advising the patient of the great danger of infecting others while he is still an active carrier of disease. He loses the personal touch with his patient which is the successful element in the treatment of disease. In private practice, the physician is not only a physician, but more often a friend also, and the relationship with his patient is a very personal one. Wholesale or commercial methods cannot succeed in medicine. The treatment of the sick is individualistic, and the state should not try to assume this function.

The private physician must compete with the government employee, the latter having offices, equipment and free drugs to aid him in procuring patients. He is content to accept the princely salary of from $75 to $150 a month. The private physician who cares for a venereal case is supposed to furnish his competitor, the government, the name and address of his patient.

This kind of interference would never be countenanced in the business world, but it must be remembered that the physician prides himself on not being a business man, therefore, he permits it.

Why not pay the laborer a living wage that would permit him to live and pay for his medical attendance, rather than ask the physician to make up the deficit in so-called charity hospitals and dispensaries? We want to give the needy poor better care than they have ever received before, but this cannot be done if we have to care for those who can afford to pay.

THE VENEREAL PROBLEM

Public health is the musical instrument easiest for the welfare worker to play and the softest chord is the venereal problem. They not only are able to stir the sympathies of the public, but also can arouse it to supporting the movement through fear of infection. The government has given considerable encouragement to this movement since the beginning of the war, together with semiprivate charities which have sprung up, claiming that they stand between the venereal clinic and the specialist with regard to the cost to patients.

The question whether or not free treatment and the ease with which it can be procured does not encourage the patient "to take a chance" rather than stamp out the disease, has yet to be answered.

The urologist, I believe, will, in a short time, be stripped of his venereal work so far as private practice is concerned. In the more technical field, the cystoscopic examination and diagnosis, together with surgery of the urinary tract, the encroachment will be less rapid, but nevertheless progressive.

RESULTS OF "FREE HEALTH"

To show how insidious is this virus of free health under the guise of medical charity, let me quote from

the announcement circulated in the health week campaign, by the council of the Medical Society of the County of Erie, the campaign headquarters being at the Buffalo City Hospital

Throughout the week members of the Medical Society of Erie County will be in attendance for diagnostic and advisory purposes, free of charge, regardless of financial standing of patient All reports will be mailed to physicians designated by applicants

This was a free campaign—free movies free exhibits and free medical examinations In the amusement column of the daily press, immediately above the announcement inserted by the Christian science church, appeared the advertisement presented in Figure 2

If we draw attention to the fact that physicians who are not on public payrolls will have difficulty in making a living should this so-called "free health" reach its logical outcome, the public may not be sympathetic until the awakening comes When, however, the physician's success becomes dependent on political preferment and the principle of medical socialism is substituted for the keen rivalry which now exists, and which calls for the best brains and the highest resource to achieve actual and deserved success, the patient will come to know that free health is at first a meaningless and then a dangerous term Health can be obtained and preserved through education and by the exercise of knowledge and skill It cannot be procured or maintained by the construction of palatial hospitals at public expense, and by the haphazard treatment of disease by physicians who are without personal interest in their patients, and whose reward is received from the public treasury and not in the consciousness of duty performed, with the incident recognition and success which such performance brings to the individual Socialized medicine can no more succeed than socialized industry has succeeded Its failure is as sure as its consequences are appalling There can be no such thing as free dispensaries and free clinics—they are bought and paid for by every member of the community They are expensive, as is everything conducted by the government, and the care given by the state to the sick has been and always will be inefficient Taxpayers have a right to protest against paying medical bills for those who are financially able to defray their own expenses It is making liars and cheats of numbers of people

Many have come to believe that this free service, for which they should be made to pay, should be extended to the matter of street car fares, and of gas and electric light

AMUSEMENTS AMUSEMENTS

ERIE COUNTY HEALTH WEEK CAMPAIGN
TUESDAY TO SATURDAY OCTOBER 18 22 1921
CONDUCTED BY
The Medical Society of the County of Erie, State of New York
IN CONJUNCTION WITH ITS
CENTENNIAL CELEBRATION
FREE HEALTH LECTURES by Physicians and Dentists
FREE HEALTH MOVIES FREE HEALTH EXHIBITS.
FREE MEDICAL AND DENTAL EXAMINATIONS Physicians and Dentists will be in attendance throughout the week for diagnostic and advisory purposes. All reports will be mailed to Physicians or Dentists designated by applicants
BUFFALO CITY HOSPITAL
NO 462 GRIDER STREET, 2 00 TO 10 00 P M DAILY

FIRST CHURCH OF CHRIST, SCIENTIST
IN BUFFALO NEW YORK ANNOUNCES A
FREE LECTURE
ON
CHRISTIAN SCIENCE
BY
MR JOHN J FLINN, C S OF EVANSTON ILLINOIS
Member of the Board of Lectureship of the Mother Church—The First Church of Christ Scientist in Boston Mass
ELMWOOD MUSIC HALL, Virginia and Elmwood Ave
ON FRIDAY EVENING, OCTOBER 21st, 1921
AT 8 15 O CLOCK — THE PUBLIC IS CORDIALLY INVITED

Fig 2—The upper advertisement which appeared in the Buffalo Express Oct 21 1921 was authorized by the council of the Erie County Medical Society To pay for this advertising campaign $1 600 was collected from milkmen instrument houses and druggists

It is not wise for a state to pauperize its people, nor is it fair to the medical profession to deprive it of its legitimate livelihood

The man who takes up the study of medicine in New York State must spend, after he leaves high school the equivalent of two years in college and four years of the hardest kind of study in a medical school, and at least one year's, or more often two years', internship in a hospital Before he can begin to earn his living he must spend seven or eight years in study and work

The physician has always been too busy looking after the needs of his patients to give much time to his own interest As we view the changed conditions in the last few years, unless he awakens to the drift of the tide there will soon be little inducement for a young man of real ability to enter the medical profession Even now, after he has finished his hospital internship, he finds that the cost of opening an office and waiting for a practice is appalling If he accepts a municipal or a state position, which gives him an income of $500 or $1,000 a year, it will help to tide him over a few years Habits are easily formed He receives a slight increase as years pass, but he loses the courage to break away and strike out for himself His ambition and incentive have been lost The young physician, ambitious to rise in his profession, and realizing that only by hard work and conscientious study can he accomplish this end, finds that, while he is improving himself, he incidentally is making himself a better public servant If his incentive and ambition are taken away by some government job, will he be any different from the clerks that we find now who have held the same position for years, and who if they lose their positions, are unable to support themselves?

Throwing aside all consideration of the medical profession, a very serious outlook confronts us Without realization of the outcome, a dependent class is being formed, a class which will next demand other benefits without pay or effort It is my belief that the time has come for action on the part of physicians who are proud of their profession We have been quiescent and complaisant, until the political doctors and doctor politicians have gained a foothold which will be hard to break They make an insidious plea for public support and a seductive argument to gain the good will of honest and fair-minded people They have patronage which they distribute judiciously among those whose help may be desired either within the medical profession or among outside political or other influential circles The medical profession cannot be free

and uncontrolled with these medical machines, powerful and active with their advocates and defenders, spread over a city or a state, with jobs to distribute and with power to destroy a private practice built up after years of struggle and faithful service

It will not do to scoff at the danger or minimize its importance. In its inception, it was harmless. In its spread, it has become a menace to medical men in their standing, ideals and progress. If we do not destroy socialism in medicine, it will destroy us.

The field of social welfare or social reform has developed to such an extent in recent years that it is now a recognized profession, remunerative and popular. The inauguration of a particular reform movement is usually followed by the formation of an organization with a membership more or less inactive but supplying funds to one or more secretaries to carry on active propaganda.

Let me add that I deplore this general and growing tendency to ask the government to do it rather than to do it ourselves. This inclination has been in direct ratio to the increase in our unassimilated aliens. They have always been directed or driven by some one who thought for them. It may have been for good or for bad. This class is easily influenced by propaganda to believe in the socialization of everything. We are being standardized, and sterilized and uplifted to the point of stupidity.

SOLUTION OF THE PROBLEM

The solution of this problem may be stated under three heads.

1. There should be a social service ably trained to make real and thorough investigations and competent to distinguish between the needy poor and those possessing the ability to pay.

2. There should be an awakening of the medical profession to the realization that it is equally responsible for this pauperization. There should be censorship of the services of the physician by some responsible body like the county medical society, as has been done in contract practice, so that patients able to pay should not be cared for gratuitously.

3. There should be education of the public to an understanding that if the standards of medicine are lowered through the loss of impetus and initiative in the young physician, the public will be the chief sufferer.

General Electric Building

Ultimate Fate of Syphilitic Children.—A series of investigations, extending over twenty-five years, into the ultimate fate of children born of syphilitic parents—all in the better class of the population—gave the following results. There were 139 families with 569 children. The 139 women had 263 syphilitic infants born alive, 253 dead babies and fifty-three living, nonsyphilitic children. Of the 263 syphilitic children born alive, fifty-five died before the age of 4 years. Of the 208 individuals who were the subjects of prolonged observations, 25 per cent remained alive and without attacks, 14 per cent died within the first year. All the other children have shown symptoms of disease directly traceable to syphilis. Apart from manifestations on the skin and the mucous membranes, affections of the nervous system, together with moral insanity, were most frequent. According to the statistics of hospitals with their badly fed, unhealthy applicants, 70 per cent of all syphilitic babies die in their first year.—*Hochsinger Ultimate Fate of Patients with Hereditary Syphilis Among the Better Classes.*

DETECTION OF TYPHOID CARRIERS

REPORT OF FOUR OUTBREAKS*

J. N. GEHLEN, M.D.
Epidemiologist, Minnesota State Board of Health
MINNEAPOLIS

Formerly, field investigations of typhoid fever were seldom undertaken by the Minnesota State Board of Health, except in the presence of an outbreak of considerable proportions, usually traceable to a polluted water supply. Since 1911, epidemiologic field investigations have been made, as far as possible (1) when a physician or health officer requested investigation, (2) when data furnished by the attending physician or health officer, alone or when associated with previously collected data, have indicated some local source of infection, or (3) in the absence of pertinent data, whenever time and funds have permitted, many investigations being made while the investigators were in the field primarily for some other investigation, often weeks or even months after the occurrence of a single typhoid case.

Before going into the field, the epidemiologist looks up the history of typhoid fever in the locality to be investigated, as recorded in the files of the division of preventable diseases. Our files contain physicians' original case reports and all data previously obtained from physicians and health officers and collected by epidemiologists, together with original records of laboratory examinations of blood, feces and urine, including records of Widal examinations since 1896. In addition, the records of the division of sanitation, concerning city and village water supplies, sewerage systems and certain creameries and pasteurization plants are also accessible.

In the detection of typhoid carriers, carefully collected data, supplemented by the work of the laboratory, are necessary, as suggested below:

1. Detailed case data, with special reference to source of milk and cream, to places where patient partook of food during three weeks prior to illness and to changes in personnel in the home during the same period.

2. Widal specimens from all handlers of food and milk partaken of by patient or patients in the home and elsewhere, and from all members of patient's household.

3. Feces and urine specimens from all such food and milk handlers giving a history of typhoid or continued fever, and from those in whose blood the Widal reaction is present or atypical.

4. Feces and urine specimens from any person or persons to whom data point as a probable source of infection, even though Widal reaction and history of typhoid or probable typhoid fever are absent.

Since Jan. 1, 1913, the division of preventable diseases has identified and placed under supervision eighty-six carriers of typhoid (seventy-two) and paratyphoid (fourteen) bacilli. Four hundred and sixty cases and thirty deaths have been traced epidemiologically to these carriers, two of whom have meanwhile died.

Four outbreaks which illustrate different phases of the carrier problem have been selected for report at this time. In reality, two outbreaks each are reported under Outbreaks 3 and 4.

* From the Division of Preventable Diseases, Minnesota State Board of Health.

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

FIRST OUTBREAK

No cases of typhoid fever had been reported from D, a village of about 250 inhabitants, since 1913, when Dr W P Greene, then epidemiologist of the state board of health, traced thirteen cases, which had occurred during the three preceding years, to a woman who had had typhoid fever in 1910, and subsequently sold milk in the village March 4, 1921, a telegraphic request for assistance in an outbreak in children was the first information received by the division of preventable diseases that typhoid fever had reappeared in this village

Immediate investigation showed that eleven cases, eight in children, three in adults in four families, as shown in Table 1 had occurred between Dec 27, 1920, and March 2, 1921, the early cases having been diagnosed as influenza, pneumonia and "nervous breakdown" The three adult patients, and the two young children, aged 2 and 3 years, respectively, in the P family, had attended "Ladies' Aid" meetings, attended by numerous other women and children, where light refreshments, with coffee, and milk for the younger children, were served Except for these meetings and the usual frequent visits of close neighbors, there had been no visitors in these families, and the infected persons had not partaken of food away from home There was no history of previous typhoid fever in the

TABLE 1—DATA OBTAINED IN FIRST OUTBREAK

Case	Family	Sex*	Age in Years	First Symptoms	Widal Reaction	Water Supply	Milk Supply
1	B	♂	2	Dec 27†	March 18 +	Spring	S Dairy
2	P	♀	2	Jan 7†	March 7 +	Spring	S Dairy
3	P	♂	7	Feb 14	March 5 +	Spring	S Dairy
4	P	♀	3	Feb 24	March 7 +	Spring	S Dairy
5	H	♀	23	Jan 13†	March 10 Atyp	Cistern	S Dairy
6	H	♀	21	Feb 14†	March 10 +	Cistern	S Dairy
7	H	♀	14	Feb 23	March 11 +	Cistern	S Dairy
8	H	♂	10	Feb 28	March 10 +	Cistern	S Dairy
9	B	♀	39	Feb 19†	March 7 +	Spring	S Dairy
10	B	♂	11	Feb 27	March 5 +	Spring	S Dairy
11	B	♀	8	Feb 28	March 11 +	Spring	S Dairy

* In this column ♂ indicates male ♀, female
† Approximate

well members of the four families, and the Widal reaction was absent in blood specimens from all Three families used water from a spring, and one used cistern water

All four families took milk from the S dairy Mr S, aged 63, who had moved to the village in September, 1920, had had typhoid fever forty-three years previously His wife, aged 62, their four children, three of whom were away from home, and one granddaughter living with them, gave no history of previous typhoid A hired man developed typhoid fever in 1918 while working on their farm Mr S did the milking, and Mrs S handled the milk and milk utensils, which were never sterilized

At the time of the investigation, six families, two of which were free from infection, bought milk from the S dairy A seventh family used milk from this dairy from September till November, 1920, without becoming infected The Widal reaction was present in blood taken, March 6, 1921, from Mrs S, who gave no history of typhoid or other continued fever, and was absent in blood from her husband and the other members of the family living at home *B typhosus* was isolated from feces from Mrs S, March 16

It might be concluded that all cases in this outbreak were due directly to consumption of infected milk, since only one patient denied drinking or otherwise consuming raw milk or cream, at least occasionally

A study of the incidence of cases by onset, as presented in Table 1, along with that of the data obtained, suggests that all but the first two (in very young patients, both milk drinkers) may have been secondary cases, and that there may have been but one lot of polluted milk distributed In Case 5, in the H family, who denied consumption of raw milk or cream, the patient may have been infected through its use in cool coffee or tea or on desserts, or she may have been infected through direct contact with the patient in Case 2, who attended "Ladies' Aid" meetings while sick typhoid fever not having been suspected

Cases 9, 10 and 11 in the B family, and Cases 2, 3 and 4 in the P family, were intimately associated, the B family obtaining their drinking water (spring water) from the P family's kitchen It seems probable that Mrs B (Case 9) obtained infection from contact with the P family, and that the remaining cases in the P, H and B families were but indirectly due to infected milk The fact that there was no history of previous typhoid fever in the carrier's children and that no cases had occurred among her customers in D village for a period of three months, combined with the observation that she appeared to be a very neat housekeeper, rather favors this supposition

SECOND OUTBREAK

April 30, 1921, assistance was requested in a typhoid epidemic in a well settled farming community in northern Minnesota On investigation, May 1, it was found that fourteen men, all heads of families except one, had developed typhoid fever between April 10 and April 25 One secondary case developed later, and in five of the primary cases death ensued The cases were in three townships and were from 2 to 5 miles (3.2 to 8 kilometers) apart Each of the men had lived on his own farm for a number of years, having his own water and milk supply Well members of but one family gave a history of previous typhoid fever Five well members in the family of Case 8 gave a history of having had typhoid fever two years previously (In blood from three, the Widal reaction was positive, one set of discharges from each was examined, May 12, with negative results) *There was no history of previous typhoid fever in well members of the remaining thirteen families* All fourteen men, after careful questioning, denied having eaten away from home, except two who had had one and two meals, respectively, at different restaurants, in two villages

May 3, on inquiry as to farm sales, each recalled that he had attended a sale, April 1 About 100 persons were present at this sale The men were served a cold lunch, consisting of pork, hog's head cheese and cheese sandwiches, cookies, friedcakes and coffee The women and the auctioneer were served a hot meal without sandwiches

Four women prepared the food Three denied having had typhoid fever, and the Widal reaction was negative in the blood of two, but positive in the blood of the third woman Two sets of feces and urine specimens from this woman were examined with negative results Further specimens were unobtainable *Blood from the fourth woman, aged 65*, who had had typhoid fever thirty-three years previously, gave a positive Widal reaction, May 2, and *B typhosus* was found in nearly pure culture in a specimen of feces received June 7, after six days in transit Three of her seven children gave a history of typhoid fever This carrier had prepared the hog's head cheese in

her own home It is probable that this meat was infected by the carrier in removing it from the bones, a hand process, performed before the meat becomes cold A considerable mass of this warm chopped meat cooling slowly would act as an incubator for typhoid

TABLE 2—DATA OBTAINED IN SECOND OUTBREAK

Case	Sex	Age in Years	First Symptoms	Positive Widal Reaction	Comment
1	♂	58	April 8	May 9	
2	♂	29	April 10	April 29	Died May 4
3	♂	55	April 15	May 2	Died May 14
4	♂	29	April 15	May 11	Died May 22
5	♂	69	April 17	May 9	
6	♂	33	April 17	May 9	
7	♂	30	April 18	May 2	Died May 16
8	♂	38	April 20	May 2	Died May 7
9	♂	30	April 21	May 2	
10	♂	28	April 21	May 4	
11	♂	30	May 21	May 9	
12	♂	19	April 21	May 2	
13	♂	29	April 25	May 2	
14	♂	34	April 26	May 9	
15	♀	11	May 29	June 11	Secondary to Case 12

bacilli, if present All who became sick had eaten meat sandwiches, although most of the men, very ill at the time of investigation, were unable to state whether head cheese or pork sandwiches had been consumed by them Of two brothers who received head cheese sandwiches, one threw the meat away, while the other ate the entire sandwich The former remained well, the latter developed typhoid, and died

The severity of this outbreak, attested by five deaths, which occurred among fourteen cases, may be accounted for by the ingestion, probably of a massive dose of typhoid bacilli, such as might be expected to be present in food handled under conditions favoring bacterial development The apparently long incubation period in the majority of these cases does not seem consistent with the incidence of cases in certain food outbreaks, and I believe that the actual dates of first symptoms in most of the cases were from seven to ten days earlier than the obtainable data indicated Robust and stolid types of men are liable to throw out of account slight symptoms of illness such as occur early in the course of typhoid fever At the time of investigation, the men were too ill to give much desired data

THIRD OUTBREAK

Between October 28 and November 19, 1920 five cases of typhoid fever, two in adults, three in children,

TABLE 3—DATA OBTAINED IN THIRD OUTBREAK

Case	Sex	Age in Years	First Symptoms	Widal Reaction	Comment
			1920 Outbreak		
1	♂	41	Oct 28	Nov 8 +	
2	♀	4	Nov 1	Nov 17 +	
3	♀	10	Nov 12	Dec 4 +	Sister to Patient 5
4	♂	35	Nov 15	Dec 4 Atypical	
5	♀	6	Nov 19	Dec 4 +	Sister to Patient 3
			1921 Outbreak		
6	♀	11	Oct 9	Oct 17 +	
7	♀	7	Oct 30	Nov 14 +	
8	♀	17	Nov 1*	Dec 9 +	
9	♀	4	Nov 4	Dec 9 +	
10	♀	24	Nov 4	Dec 9 +	
11	♀	20	Nov 29	Dec 9 +	Secondary to Case 10

* Approximate

in four families, as shown in Table 3, developed in a small village in northern Minnesota The epidemiologic evidence pointed to the S restaurant as the source of infection, all patients having had several meals there during three weeks prior to first symptoms Mrs S, aged 54, who had had typhoid fever fifteen years previously, did all the cooking and handling of food, while her husband, aged 45, who had had typhoid thirteen years previously, occasionally helped in waiting on the table The Widal reaction was positive in blood from both, December 6 *B typhosus* was isolated from the urine of Mr S, December 20 One set of urine and feces specimens from Mrs S was examined, with negative results About this time the husband left the state, and his wife continued the restaurant business She refused to submit discharges for further examinations Again, during October and November, 1921, six cases of typhoid fever, three in adults, three in children, in six families, as shown in Table 3, developed in the village Again, the epidemiologic evidence pointed to this restaurant as the source of infection All except Patient 11, who nursed Patient 10, had partaken of food prepared by Mrs S, either at the restaurant or on some social occasion, within a period of three weeks prior to the first symptoms Since 1905, when Mrs S had typhoid fever, six cases had occurred among her relatives, her husband, two sons, a daughter, a daughter-in-law (Case 8) and one granddaughter (Case 2) all cases being directly traceable to her

TABLE 4—DATA OBTAINED IN FOURTH OUTBREAK

Case	Sex	Age in Years	First Symptoms	Positive Widal Reaction	Comment
			1920-21 Outbreak		
1	♂	63	Sept 15 1920	May 1921	
2	♂	15	Oct 31 1920	Nov 1920	
3	♂	10	Nov 10 1920	May 1921	
4	♂	27	Jan 1921	Feb 1921	Secondary case
5	♀	29	Jan 1921	Feb 1921	Secondary case
			Later 1921 Outbreak		
6	♂	41	Aug 1 1921	Nov 1921	
7	♂	3	Aug 10 1921	Oct 1921	
8	♀	37	Aug 20 1921	Oct 1921	Secondary case
9	♂	14	Sept 15 1921	Oct 1921	Secondary case
10	♂	13	Sept 15 1921	Oct 1921	Secondary case
11	♂	[illegible]	Sept 22 1921	Oct 1921	Secondary case
12	♂	39	Oct 1 1921	Oct 1921	Secondary case
13	♂	[illegible]	Nov 1 1921	Nov 1921	Secondary case
14	♀	47	Sept 15 1921	Oct 1921	Secondary case
15	♂	6	Oct 13 1921	Oct 1921	Secondary case
16	♂	9	Sept 13 1921	Oct 1921	Secondary case

Under duress of immediate closure of her restaurant, Mrs S submitted specimens, and *B typhosus* was isolated from both urine and feces received, December 6 Mrs S was compelled to give up the restaurant business

FOURTH OUTBREAK

In Dakota County, two cases of typhoid fever in one family in a rural district, reported in January, 1921, were not known to have any relationship to a third case, which had been reported from an adjoining township in November, 1920 Data on these cases were given to Dr J A Carter, a graduate student at the University of Minnesota who had been assigned to the division of preventable diseases for practical field work, and, on investigation May 25 1921, he found that five undoubted cases of typhoid fever, involving three families, had occurred between September, 1920, and January, 1921 as shown in Table 4

In Case 1, not previously diagnosed, the patient had had the first symptoms of typhoid fever about three weeks after the arrival of a new housekeeper, Mrs S Case 2 was that of a boy who developed typhoid fever while working in the home of Patient 1 where he took one meal a day The patient in Case 3, unreported, son of Patient 1, lived at home and after becoming sick visited Patients 4 and 5, his brother and sister-in-law, respectively

Mrs S, aged 50, gave a history of prolonged illness with symptoms of typhoid fever during the early part of 1920 Though the Widal reaction was positive in her blood in May, 1921, four specimens each of feces and urine were examined with negative results

First knowledge of a second outbreak in two townships in the vicinity of the preceding one was received in October, 1921, when blood specimens from members of three families gave a positive Widal reaction in eight persons, six of whom had had first symptoms in August and September Investigation disclosed that eleven cases had occurred between August 1 and November 1, as shown in Table 4 The first, Case 6, developed about four weeks after Mrs S entered the home as housekeeper Patient 7, a child in the neighborhood, visited Mrs S daily, and consumed food prepared by her

The remaining nine cases, including six members of the family of Patient 7 and three persons in two neighboring families, were closely associated one with another, and were but indirectly traceable to Mrs S The Widal reaction was again positive in blood from Mrs S, and at this time *B typhosus* was isolated from urine

SUPERVISION OF CARRIERS AND NEED FOR THEIR COMPENSATION

The state board of health, directly through its own representatives or through the local health officer, gives such instructions to be followed by the carrier and members of his family as are necessary for their protection and that of other associates, and explains the state law, which forbids a carrier to engage in the handling of any part of the public's food supply which may be consumed without being cooked after handling

The local health officer is charged to keep the state board of health informed as to any change in the carrier's residence or occupation, and, as long as the carrier obeys directions, all publicity is avoided In one instance only has it been necessary to prosecute a carrier for illegally returning to a forbidden occupation

Three of the four carriers herein reported, one a dairy woman, another a restaurant keeper, and the third a practical nurse and housekeeper, were forced to abandon their chosen occupations, the nurse-housekeeper having no income aside from her earnings for the support of herself and one dependent Such restrictions of individual rights and liberty are necessary to protect the public against these innocent distributors of disease and death

Since 1915, the Minnesota State Board of Health has been entrusted by the legislature with the disbursement of a special fund for the support of a typhoid carrier who, after unauthorized newspaper publicity, was unable to obtain work Should not the state offer compensation to carriers who must give up their chosen occupation in order to protect its citizens?

ABSTRACT OF DISCUSSION

DR JAMES J DURRETT, Memphis Tenn Persons with chronic tuberculosis should not handle foods, and, if state compensation is given to one the other should participate, also carriers of other diseases might have a just claim The aggregate compensation thus distributed would be large, and, as we have *in most places trouble getting adequate funds for* recognized public health work we should not ask for money for this purpose just yet Formerly, when the death rate for typhoid was from 30 to 40, cases of typhoid were so numerous that small outbreaks *caused by carriers were masked entirely,* or made obscure and difficult to trace With the typhoid death rate below 10, cases are sufficiently few to make even a small, sudden increase in the number stand out clearly if not conspicuously I believe that this causes us to trace relatively more cases to carriers at this time than formerly Sanitation that purifies our water and safely disposes of excreta goes a long way toward protecting us against carriers of the typhoid bacillus who do not handle foods Those carriers who prepare food and handle raw milk constitute a special problem and when detected they should be compelled to abandon this type of work, and they should be taught personal hygiene

DR JOSEPH N GEHLEN, Minneapolis With higher standards of water purification and with partial supervision of milk supplies in the larger cities and villages of Minnesota during the last few years, most of our outbreaks have been caused by carriers, although we have not always been able to trace the source The question is what to do with carriers after we find them We keep food and milk handlers out of business, and it does not seem fair to have their usual method of livelihood taken away from them without some form of compensation

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NUTRITION IN SCHOOLCHILDREN*

TALIAFERRO CLARK, M D
Surgeon U S Public Health Service
WASHINGTON, D C

It is not the purpose of this paper to discuss nutrition from the standpoint of calory requirement, relative protein nutritive value, vitamin content or metabolic processes Our inquiry is directed more particularly to certain phases of nutrition work now being widely attempted in the schools, and which may affect, for better or for worse, 20 per cent of the total population, representing the approximate school enrolment of a given community

For untold generations, men and women have been born, "had their being," and died at a ripe old age, without thought of the state of nutrition or the character of the food ingested other than that inspired by a catholic appetite But, within the last few years, all has changed, and the popular conception of malnutrition is—shall I say?—so inaccurate that the veriest tyro in public health work, after placing a child on a scale and noting comparative results, gravely announces the percentage of malnutrition in a given population group, and, in addition, prescribes the remedy

Nutrition, or rather its opposite, malnutrition, bids fair to become a fad with large numbers of people of limited training and experience in health matters, although such men as McCollum, Mendel, Osborne, Hess and Unger in this country and many investigators in other lands as yet but "see through a glass darkly," despite the great advances made by them in the knowledge of metabolic processes and relative food values

REPORTED PREVALENCE OF MALNUTRITION IN SCHOOLCHILDREN

The percentage of "malnutrition" (underweight) in schoolchildren reported by different observers varies widely, not only for children residing in the same locality, but also for those residing in urban as contrasted with rural communities

According to Emerson,[1] approximately one third of the schoolchildren of the country suffer from malnutrition In New York City, there seems to have been

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Emerson W R P Nutrition and Growth in Children 1922

a progressive decline in the percentage of malnutrition observed in schoolchildren, as shown in Table 1.[2]

The data first reported for New York City are based largely on estimates of nutrition according to the Dunfermline scale. Later, however, the relationship of weight to height was considered also in estimating nutrition status.

Walter S. Cornell,[3] director of medical inspection of schools, Philadelphia, reports that from 5.6 per cent to 22.3 per cent of 12,817 schoolchildren recruited

TABLE 1.—MALNUTRITION IN NEW YORK SCHOOLCHILDREN

Year	Number Examined	Percentage of Undernourishment
1917	171,691	21.6
1918	184,374	19.0
1919	248,064	20.0
1920	241,064	17.7

from the poorer districts of that city are 10 per cent or more underweight, as shown in Table 2.

Of 26,318 schoolchildren examined in Cleveland, 1921-1922, L. W. Childs, director of health education for the board of education of that city, reports that 3,914, or 14.8 per cent., were 10 per cent or more underweight, according to the Emerson scale.[4]

During the present school year, 17.9 per cent of the schoolchildren of Detroit were found to be 15 per cent or more underweight.[5]

In a survey made by the Elizabeth McCormick Memorial Fund,[6] Chicago, in 1920, 57.7 per cent of the children attending a school situated in a "comfortable semiurban neighborhood" were reported as malnourished, and but 16.2 per cent of those attending a school of the stockyard district were so classified. According to those reporting, this seems to indicate that so far as these children are concerned, underweight is not altogther a question of either the quantity or the quality of the food supplied.

Reports of underweight observed in rural schoolchildren vary even more widely than do those for the cities. Service officers engaged in field investigations in child hygiene have, for a number of years, directed comparative studies of underweight in the schoolchildren of several states, as a part of these investigations. Following are some of the reported observations.

In Missouri, 1920-1921, of 9,214 schoolchildren examined in twenty-two towns, 38.3 per cent of them were 7 per cent or more underweight, as compared with 34.5 per cent of the 1,698 children examined in the schools of three rural communities.

In five Mississippi counties, of 11,270 white schoolchildren and 5,840 negro schoolchildren weighed and measured in 1920 and 1921, 5,436, or 48.2 per cent., of the former, and 3,111, or 53.2 per cent., of the latter were 7 per cent or more underweight, respectively. However, these percentages may not accurately represent the prevalence of underweight among the schoolchildren for the state at large because the counties selected for study are notably affected by hookworm and malaria.

Of 1,841 children attending school in a favorably located and prosperous county in Florida, who were weighed and measured in 1921 and 1922, 591, or 32.1 per cent., were 7 per cent or more underweight.

2. Month. Bull. Dept. Health New York City, May 1921, p. 109.
3. Cornell, W. S. Personal communication to the author.
4. Childs, L. W. Personal communication to the author.
5. Week. Health Rev. Dept. Health Detroit, Feb. 18, 1922.
6. Wood, Mrs. Ira Couch. Nutrition Classes in the Chicago Schools. Mod. Med. 2: 388 (May) 1920.

WHAT IS MALNUTRITION?

In view of the varying and alarming percentages of malnutrition reported by different observers, one might well pause to inquire whether malnutrition is a distinct pathologic entity or merely a symptom. If the former, is the very great reported prevalence due to a newfound ability to recognize a disorder that has been of common occurrence for years past, or to change in the quantity, quality, selection and preparation of foods in common use? On the other hand, may not the widely varying percentages be due, in very large part to the use of inexact standards for measuring nutrition, and, in instances, to defective and inaccurate apparatus?

I am not prepared to accept the popular conception of malnutrition as a distinct pathologic entity, and I believe that it is a symptom due to manifold causes operating either singly or in combination. This point of view is very succinctly set forth in a statement by Sir George Newman, quoted by Frank A. Manny, special investigator of the New York City Bureau of Welfare of School Children:

> In endeavoring to estimate a child's nutrition or its opposite (viz., malnutrition), we must think not only of bulk and weight of body but of ratio of status to weight, of the general balance and "substance" of the body and of its carriage and *bearing, of the firmness of the tissues, of the presence of* subcutaneous fat, of the condition and process of the development of the muscular system, of the nervous and muscular system as expressed in listlessness or alertness in apathy or keenness, of the condition of the various systems of the body and speaking generally, of the relative balance and coordination of the functions of digestion, absorption and assimilation of food, as well as of the excretion of waste products. It is obvious that these are data which are likely

TABLE 2.—WEIGHTS BELOW NORMAL IN PHILADELPHIA SCHOOLCHILDREN

No. Weighed	9.9 per Cent Underweight		From 10 to 12.9 per Cent Underweight		13 per Cent or More Underweight		Total No. 10 per Cent or More Underweight		
	No.	%	No.	%	No.	%	No.	%	Comment
470	382	81.0	59	12.[illegible]	29	6.0	88	19.0	Poor and colored
862	709	82.2	67	7.8	86	10.0	153	18.0	Poor textile workers
922	795	86.0	97	10.5	30	3.0	127	14.0	Poor textile workers
1,000	898	89.6	53	[illegible].4	51	5.0	104	10.4	Moderately poor American and German
505	454	89.9	35	6.9	16	3.2	51	10.1	Poor. Jewish and colored
1,079	1,002	92.8	36	3.3	41	3.9	77	7.2	Jewish and poor
867	810	93.4	20	2.3	37	4.3	57	6.6	Rowdies, white and colored
213	201	94.4	6	2.8	6	2.8	12	5.6	Poor white and colored
906	704	77.7					202	22.3	Colored
1,067	902	84.[illegible]					165	15.5	Poor native whites
949	755	84.3					194	15.7	Poor native whites
1,473	1,259	85.5					214	14.5	Native whites
468	407	87.0					61	13.0	Moderately poor white and colored
1,143	1,010	88.4					133	11.6	Poor colored
891	818	91.8					73	8.2	Jewish poor
11,817	11,104						1,711		
Average		86.7						13.3	

to lead to a much more reliable opinion than the consideration of any one factor or ratio however, expeditiously obtained or convenient in form or practice and these data will demand a wider as well as a more careful and accurate observation of the whole physique of the child. Nor can an ultimate opinion always be formed at one inspection at any given moment. For nutrition, like its reverse, malnutrition is a process and not an event.

Many factors are conducive to underweight. Of these may be mentioned causes relating to the diet, to personal and general hygiene, to lack of exercise or to overexercise, to defect and disease, to possible inherited

tendencies and to environment, all modified in varying degree by the economic and educational status of individual parents and the disciplinary control exercised by them over their offspring Furthermore, is weight alone a true measure of nutrition? Is it not possible to fatten a child, as, for example, an infant fed for a prolonged period on condensed milk, and yet fail to promote proper skeleton growth or increase in vital stamina? Is it not possible, by regulating the diet and daily routine, to cause a child to take on fat, even in the presence of a grave pathologic lesion, and this without removing the cause? Underweight or malnutrition, if you please, is a distinct medical problem that must be combated by medical measures

STANDARDS OF NUTRITION

A number of different standards of physical development have been advanced for use as a measure of the state of nutrition Practically all of them estimate nutrition in terms of weight The standards most generally used in this country are two, one devised by W R P Emerson of Boston and the other by Thomas D Wood of Teachers' College, New York Both of these standards are based on weight in relation to the standing height according to sex, with the difference that Wood's tables consider the height and weight in relation to age The more recent tables promulgated by Emerson also take into consideration the age factor The chief objections to these tables are

1 The standing height, which is subject to wide individual variation, is used

2 They represent the average measurements of large numbers of children, it is true, but include children who are undernourished, or who are suffering from physical disability in varying degree, no doubt, including the measurements of a number with spinal curvature and other deformities which materially affect stature

3 A percentage deviation from the average is arbitrarily adopted to represent undernourishment, ranging from 7 per cent, according to Emerson's standards, to 10 per cent, according to those advocated by L Emmett Holt

4 They fail to take into consideration hereditary factors which influence stature, on the assumption that the height-weight index applies to all races This may be true, but has not yet been conclusively proved

5 They are confessedly approximations

BALDWIN'S TABLES

For a number of years, the child research station of the University of Iowa has been making a series of observations of special groups of children, under the direction of Dr Bird T Baldwin[7] These children have been examined from year to year, and carefully measured and weighed, and the results have been embodied in tables that represent probably the most scientific study of this problem which has yet been made in this country

Objections to Baldwin's tables are based on the ground that these measurements represent a selected group of children who, because of the very fact of their being weighed and measured periodically, are subjected to special bettering influences, a group which probably becomes more select through the falling out of the unfit from year to year Furthermore, although these data were collected in widely separated communities, the number of children included are relatively few as compared with the total for the country as a whole Considering the reported sources of the data used, the measurements of certain age groups may not be representative because based on a larger or smaller amount of data from single localities, with possible complicating race factors

FOREIGN STANDARDS

Considerable interest in two foreign standards of nutrition has been manifested in this country within the last two years Pirquet's pelidisi index, and Dreyer's assessment of physical fitness

Pirquet's Index of Nutrition.—In contradistinction to the conception that energy exchange stands in definite relation to skin area, Pirquet of Vienna conceived the idea that the intestinal area, representing the surface which governs the amount of food absorbed, affords the proper basis for the determination of normal food requirements In calculating the intestinal area he used the observation made by Henning, in 1821, that the length of the intestine in centimeters is ten times the sitting height in centimeters, and, "as deduced from various observations on intestinal volume" that the width of the intestine is equal to one tenth of the sitting height, both measured in centimeters On this basis, the area of the intestine is expressed as $10\ S_1 \times \frac{S_1}{10} = S_1^2$

However, the food requirements of individuals differ widely, owing to many factors In this connection Pirquet worked out an index of nutrition based on the weight-sitting height ratio, the so-called pelidisi, namely ten times the weight in grams divided by the cube of the sitting height in centimeters A well nourished child, according to Pirquet, will register 100 per cent In the practical application of his system to the feeding of many thousand Austrian children by the American Relief Administration, all the children that registered 94 per cent or less were considered undernourished

Furthermore, Pirquet does not rely on the weight-sitting height ratio alone in estimating the state of nutrition and the food requirements of individual children, but classifies them under four headings, according to the results of physical examination, namely, sanguis (blood), crassitudo (fat), turgor (water-contour), and muscularis (muscle)

Using the first consonants in each of these four words as a skeleton, namely, s, cr, t and m, and inserting after each of these symbols the proper vowel, "a," representing normal, "e" and "i," moderately and greatly increased, and "o" and "u," moderately and greatly decreased respectively Pirquet coined the word "sacratama" to indicate a child in normal nutrition By substituting other vowels to form, for example, the word "socrotemo," this would indicate a slightly anemic moderately thin, fairly rounded out child of moderate muscular development

Pirquet's system is probably more useful in connection with feeding large groups of children Serious objections have been offered to the application of the system to individual children, because it is based largely on theoretical premises

In a comparison of "pelidisi" with percentages by the Wood tables in a series of 984 Los Angeles schoolchildren, Faber[8] found that approximately one half o

7 Baldwin B T Physical Growth of School Children Extension Div Bull No 59 University of Iowa Dec 1 1919

8 Faber H K The Pirquet System of Nutrition and Its Applicability to American Conditions J A M A 77 1837 (Dec 3) 1921

them would be graded as undernourished by the Pirquet scale, in comparison with one fifth and one ninth as 7 per cent and 10 per cent undernourished, respectively, by Wood's tables

Representing the results of his study of these two scales by frequency graphs, Faber was able to show that, of the entire series of 984 cases, only 24 2 per cent showed comparable indices of nutrition Commenting on these findings, Faber declares that "from a statistical study of this sort, it is impossible to decide which method is at fault"

Dreyer's Assessment of Physical Fitness—John Hutchinson, as far back as 1846, observed that patients suffering from pulmonary tuberculosis showed a lessened vital capacity Inspired by Hutchinson's observation and stimulated by his experience during the World War, when vital capacity was made an important consideration in the selection of candidates for the British flying service, Georges Dreyer,[9] professor of pathology, Oxford University, made a series of intensive studies of carefully selected groups of persons, varying widely in age and physical development, and apparently he has been able to establish a definite relationship between vital capacity and certain body measurements, and to express the vital capacity as a function of these measurements

According to Dreyer, when the weight in grams raised to the two-third power (or more accurately 0 72) is divided by the vital capacity, a normal constant for persons of the same class (occupation, mode of living, etc) will be obtained, irrespective of age, weight or height Some of his other formulas are as follows, V C being equal to vital capacity in cubic centimeters, N equal to 2, K equal to a constant, L equal to sitting height in centimeters, and Ch equal to chest circumference in centimeters

$$\frac{L^2}{V\ C} = K^2$$

$$\frac{Ch^2}{V\ C} = K^2$$

$$\frac{L \times Ch}{V\ C} = K^2$$

By the use of these formulas, Dreyer has prepared a series of tables, for both males and females, of weight in relation to sitting height, chest circumference and vital capacity

Weight is classified as (1) possibly abnormal when it is found to be 5 per cent above or below the calculated normal, (2) probably abnormal when it differs from the normal by 10 per cent, and (3) certainly abnormal when the deviation is as much as 15 per cent from the normal calculated for a given sitting height, chest circumference or vital capacity

Different persons, all apparently in good health, exhibit great differences in vital capacity, depending on the occupation and mode of life This difference in normal persons, according to Dreyer, has nothing to do with fundamental bodily deficiencies, because it can be remedied by exercise and other measures

I have long considered the sitting height a more reliable measurement than the standing height for determining physical standards, and I believe that Dreyer's methods and results should be carefully studied for comparison with the standards now in more or less general use in this country

9 Dreyer Georges and Ranson G T The Assessment of Physical Fitness London, Cassell and Company *Limited 1920*

THE DUNFERMLINE NUTRITION SCALE

The Dunfermline scale introduced by Dr Alister MacKenzie of the Carnegie Dunfermline Trust, at Dunfermline, Scotland, distinguishes four nutritional groups on inspections

1 "Excellent" means the nutrition of a healthy child of good social standing

2 Children whose nutrition falls just short of this standard are classified as "good"

3 Children "requiring supervision" are on the borderland of serious impairment

4 Children "requiring medical treatment" are those whose nutrition is seriously impaired

The use of this scale presupposes medical training and experience Following are some of the comparative results of the application of this scale by medical officers of the U S Public Health Service, modified as to terminology, to 9,973 schoolchildren, largely of Anglo-Saxon stock, residing in Delaware, Maryland, New York, South Carolina and Virginia

TABLE 3—PERCENTAGES OF 9,973 CHILDREN CLASSED AS OF FAIR OR OF POOR NUTRITION

Age	Both Sexes	Boys	Girls
6	17 6	18 6	16 6
7	19 9	20 1	19 6
8	20 7	22 1	19 2
9	18 8	18 0	19 6
10	18 0	17 1	19 1
11	18 9	19 0	18 9
12	15 1	16 4	13 9
13	12 8	13 1	12 5
14	12 4	11 7	13 0
15	9 0	12 3	5.7
16	7 1	8 4	6.2

1 The percentage of defective nutrition in children classified according to clinical evidence other than weight was highest at 8 years of age, decreasing with age, as shown in Table 3

2 From the fact that the mean measurements of the children classified as of fair or of poor nutrition were constantly less than those classified as of good or of excellent nutrition, the children classified as malnourished from clinical evidence other than height and weight, are shorter and lighter, and have a smaller weight-height index

3 Differences in height are much less significant in judging nutrition than in judging differences in weight

4 In comparing the percentage distribution of the two groups classified as of good or of poor nutrition, according to clinical evidence other than height and weight, it is found that while on the average the children in the latter group weigh less than those in the former, some of the children in the poor group weigh more than some of the children in the good group This is additional evidence that weight measurements alone are not sufficient for determining nutrition, but that these must be supplemented by medical examinations

PROPOSED STUDY OF PHYSICAL STANDARDS BY U S PUBLIC HEALTH SERVICE

The Public Health Service is now making some careful studies of the physical development of schoolchildren in cooperation with the divisions of child hygiene of several state boards of health It is purposed to extend these studies and to secure the cooperation of other state and municipal boards of health, in order that special measurements may be obtained of selected classes of children residing in both urban and rural communities, in sections of the country more or

less homogeneous in population and subjected to practically the same climatic conditions

The measurements will be made in the case of certain racial groups, namely, children who may be considered of native American stock, native born children of foreign born parents, according to race stock, and of foreign born children, according to race stock They will be made in identically the same manner with instruments that have been standardized, and recorded on a special form The special measurements will be used in calculating standards for comparison with those already in use, both in this country and elsewhere, and as the basis of standards applicable, if not to the country as a whole, at least to the different sections of the country from which the data were obtained In fact it is a question in my mind whether we can hope to adopt a standard which will be applicable to the country as a whole owing to the effect of the wide geographic distribution of our population whose various elements are thus subjected to varied climatic influences and, therefore, different food supplies, and also because of the impress which necessarily must have been made on physical development by the tremendous alien immigration to which this country has been subjected in the last twenty or more years

RELATION OF PHYSICAL DEFECTS TO UNDERWEIGHT

During the present scholastic year, one or more physical defects were noted in 74 9 per cent of 8,887 schoolchildren in Detroit who were 15 per cent or more underweight No outstanding defect was observed in 25 1 per cent of them [9]

The reported percentages of defects found in greatest frequency were enlarged or infected tonsils, 50 8 per cent , defective teeth, 22 7 per cent , faulty vision, 9 3 per cent , mouth breathing, 9 2 per cent

A comparison of gain in weight by children without nasopharyngeal obstruction and those recommended for operation in a study made by the bureau of educational experiments, New York City [10] showed that 68 87 per cent of thirty-two children without this defect made gains in excess of the normal, as compared with 55 1 per cent of those without correction In comparing the relative gain, however, only 6 1 per cent of those having defects showed over 100 per cent gain in excess of the normal, as compared with 31 3 per cent for those without defects

In April, 1920, a study of 200 underweight Baltimore schoolchildren from 7 to 14 years of age was made by officers of the U S Public Health Service to determine the effect of the removal of physical defects on the rate of growth as represented by height and weight [11] These children were exempted from nutrition instruction and from any special hygiene other than the correction of their physical defects The higher percentage of monthly increase in weight noted may be largely, if not wholly, attributed to the correction of the physical defect

It was found that the percentage monthly increase in the weight of boys and girls from 7 to 10 years of age was 0 47 per cent and 0 27 per cent , respectively, before the operation for diseased tonsils and adenoids, as compared with 1 80 per cent and 2 05 per cent after the operation In the case of children from 11 to 14 years of age, the percentage of increase was 0 47 per cent and 0 84 per cent , respectively, before the operation and 2 04 per cent and 1 99 per cent after the operation It is safe to assume that underweight in the case of these children was due largely to toxic absorption rather than to improper feeding Expected percentage increase per month in weight computed from tables of average weights is presented in Table 4

TABLE 4—EXPECTED PERCENTAGE INCREASE PER MONTH IN WEIGHT COMPUTED FROM TABLES OF AVERAGE WEIGHTS

Tables	Age	Boys	Girls
Emerson	7 to 10 years	0 78	0 77
U S P H S	7 to 10 years	0 72	0 79
Emerson	11 to 14 year	0 83	0 97
U S P H S	11 to 14 years	0 82	0 97

TENDENCY OF STAPLE CROPS TO MODIFY NUTRITION

It is doubtful that more than a few children in this country are undernourished because of too little food

According to McCollum,[12] "low vitality, low resistance and inefficiency, and a tendency to cumulative fatigue' result from adherence to a faulty diet, and a diet of cereals, tubers and muscle-tissue meats is inadequate Furthermore, the cereal grains, which are incomplete foods, are coming into more extended use because of the tendency of farmers, owing to ease of production and probable relative low cost of production to plant larger and larger acreage to these grains which are so materially reduced in nutritive value by faulty milling It is necessary to supplement the bread meat and potato diet with milk and green leafy vegetables in order to supply mineral and accessory food factor deficiencies In actual practice, however, the application of this thoroughly sound knowledge will be followed by failure unless at the same time other causes of malnutrition are looked for, considered and controlled Of what avail is it to advise the underweight schoolchild to use milk when there is no milk? or to prescribe the leafy vegetables when the cereal grains and cotton form the staple crops in large areas of our country, even to the exclusion of products of the garden plot? Here nutrition becomes a matter of general education and of change in community custom and habit, involving time, and of state and federal guidance It is not merely a question of weighing and measuring

NUTRITION WORK IN RELATION TO REGULAR SCHOOL ROUTINE

So serious are the demands made on the time of both pupils and teachers by those engaged in or wishing to engage in sundry forms of welfare work, and by others with newly devised schemes for the general uplift which they wish first to try out in the schools, that any great extension of such activities, it seems, will leave but little time for instruction in the three R's It is for this reason, all basically related forms of school health work should be united and harmoniously fitted to the general plan of health instruction and health supervision, utilizing the combined wisdom of both the educational and health authorities for such purpose

Courses in health should be prescribed and given weight in the school curriculum corresponding to major

[10] Health Education and the Nutrition Class a report of the Bureau of Educational Experiments New York p 57

[11] Correcting Physical Defects in School Children Pub Health Rep 37 No 15 (April 21) 1922

[12] McCollum E V Simmonds N and Parsons H T Supplementary Protein Values in Foods J Biol Chem 47 111 139 175 207 235 (June) 1921

them would be graded as undernourished by the Pirquet scale, in comparison with one fifth and one ninth as 7 per cent and 10 per cent undernourished, respectively, by Wood's tables

Representing the results of his study of these two scales by frequency graphs, Faber was able to show that, of the entire series of 984 cases, only 24 2 per cent showed comparable indices of nutrition Commenting on these findings, Faber declares that "from a statistical study of this sort, it is impossible to decide which method is at fault"

Dreyer's Assessment of Physical Fitness—John Hutchinson, as far back as 1846, observed that patients suffering from pulmonary tuberculosis showed a lessened vital capacity Inspired by Hutchinson's observation and stimulated by his experience during the World War, when vital capacity was made an important consideration in the selection of candidates for the British flying service, Georges Dreyer,[9] professor of pathology, Oxford University, made a series of intensive studies of carefully selected groups of persons, varying widely in age and physical development, and apparently he has been able to establish a definite relationship between vital capacity and certain body measurements, and to express the vital capacity as a function of these measurements

According to Dreyer, when the weight in grams raised to the two-third power (or more accurately 0 72) is divided by the vital capacity, a normal constant for persons of the same class (occupation, mode of living, etc) will be obtained, irrespective of age, weight or height Some of his other formulas are as follows, V C being equal to vital capacity in cubic centimeters, N equal to 2, K equal to a constant, L equal to sitting height in centimeters, and Ch equal to chest circumference in centimeters

$$\frac{L^{n}}{V\ C} = K^{3}$$

$$\frac{Ch^{3}}{V\ C} = K^{4}$$

$$\frac{L \times Ch}{V\ C} = K^{5}$$

By the use of these formulas, Dreyer has prepared a series of tables, for both males and females, of weight in relation to sitting height chest circumference and vital capacity

Weight is classified as (1) possibly abnormal when it is found to be 5 per cent above or below the calculated normal, (2) probably abnormal when it differs from the normal by 10 per cent, and (3) certainly abnormal when the deviation is as much as 15 per cent from the normal calculated for a given sitting height, chest circumference or vital capacity

Different persons, all apparently in good health, exhibit great differences in vital capacity, depending on the occupation and mode of life This difference in normal persons, according to Dreyer, has nothing to do with fundamental bodily deficiencies, because it can be remedied by exercise and other measures

I have long considered the sitting height a more reliable measurement than the standing height for determining physical standards, and I believe that Dreyer's methods and results should be carefully studied for comparison with the standards now in more or less general use in this country

9 Dreyer Georges and Ranson G T The Assessment of Physical Fitness London Cassell and Company Limited 1920

THE DUNFERMLINE NUTRITION SCALE

The Dunfermline scale introduced by Dr Alister MacKenzie of the Carnegie Dunfermline Trust, at Dunfermline, Scotland, distinguishes four nutritional groups on inspections

1 "Excellent" means the nutrition of a healthy child of good social standing

2 Children whose nutrition falls just short of this standard are classified as "good"

3 Children "requiring supervision" are on the borderland of serious impairment

4 Children "requiring medical treatment" are those whose nutrition is seriously impaired

The use of this scale presupposes medical training and experience Following are some of the comparative results of the application of this scale by medical officers of the U S Public Health Service, modified as to terminology, to 9,973 schoolchildren, largely of Anglo-Saxon stock, residing in Delaware, Maryland, New York, South Carolina and Virginia

TABLE 3—PERCENTAGES OF 9,973 CHILDREN CLASSED AS OF FAIR OR OF POOR NUTRITION

Age	Both Sexes	Boys	Girls
6	17 6	18 6	16 6
7	19 9	20 1	19 6
8	20 7	22 1	19 2
9	18 8	18 0	19 6
10	18 0	17 1	19 1
11	18 9	19 0	18 9
12	19 1	18 4	13 9
13	12 8	13 1	12 5
14	12 4	11 [illegible]	13 0
15	9 0	12 3	5 7
16	7 1	8 4	6.2

1 The percentage of defective nutrition in children classified according to clinical evidence other than weight was highest at 8 years of age, decreasing with age, as shown in Table 3

2 From the fact that the mean measurements of the children classified as of fair or of poor nutrition were constantly less than those classified as of good or of excellent nutrition, the children classified as malnourished from clinical evidence other than height and weight, are shorter and lighter, and have a smaller weight-height index

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The measurements will be made in the case of certain racial groups, namely, children who may be considered of native American stock, native born children of foreign born parents, according to race stock, and of foreign born children, according to race stock They will be made in identically the same manner, with instruments that have been standardized, and recorded on a special form The special measurements will be used in calculating standards for comparison with those already in use both in this country and elsewhere, and as the basis of standards applicable, if not to the country as a whole, at least to the different sections of the country from which the data were obtained In fact it is a question in my mind whether we can hope to adopt a standard which will be applicable to the country as a whole, owing to the effect of the wide geographic distribution of our population whose various elements are thus subjected to varied climatic influences and, therefore, different food supplies, and also because of the impress which necessarily must have been made on physical development by the tremendous alien immigration to which this country has been subjected in the last twenty or more years

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subjects Such instruction naturally should be adapted to the intellectual capacity of the different age groups As regards nutrition, teaching in the early grades should be concerned more with the importance of milk, vegetables, fruits, cereals and the like, in the diet, from the standpoint that they help to make the child grow up to be strong The teaching of the principles of nutrition and nutritive values should be reserved for the older grades

Instruction in nutrition should not be reserved for and given only to a special group of children, either underweight or otherwise, but should include all children attending school, else we shall not find succeeding generations attaining the best possible physical development Such instruction is necessary for the guidance of the potential parents of future generations, and to overcome the ignorance now so commonly observed concerning these principles and values

Special nutrition classes for malnourished children are unnecessary in a well conducted school system providing proper health supervision Children judged to be undernourished, by whatever standard, are candidates for open air classes and open air schools, where everything possible may be done to restore them to normal, including supplementary feeding, examination for and correction of physical defects, special instruction and graduated exercises, rest periods and a follow-up system reaching into the homes

Weighing and measuring should be considered a necessary measure in every physical examination, and, in the case of children who fail to gain or lose weight steadily, the causes should be investigated and corrected

The character of the school lunch should receive careful attention, especially in rural schools, where many children frequently come long distances after a hurried breakfast, bringing a hastily prepared, poorly selected lunch, or none at all, and remain all day Aside from the question of the effect on health, an underfed child is no more fit for mental effort than is the laborer for physical tasks

I do not wish to convey the impression that I can find no good in the nutrition work now being done by so many earnest, and, at times, inexperienced workers, because, for the most part, the measures recommended by them, if carried out, will be helpful in overcoming defective nutrition, no matter what may be the underlying cause Furthermore, their persistent activities have served a very useful purpose in stimulating thought and action by those in positions of responsibility and qualified by training and experience to advise in such matters Among the objections to unsupervised and indiscriminate nutrition work may be mentioned

1 The tendency of the popular fancy to make a fad of a serious problem

2 The danger that the enthusiasm of untrained workers will cause them to lose sight of the fact that nutrition and its opposite are medical problems requiring the best obtainable medical advice in individual cases

3 The creation of a false sense of security in the mind of the parents of underweight children, by the temporary improvement following the application of well known principles of hygiene to ailing children, with potential disastrous after-effects, unless the treatment provided is based on medical advice

CONCLUSION

I wish to emphasize that, in calling attention to the need of proper supervision of lay and nursing workers in nutrition, I must also call attention to the apathetic, and in many instances, indifferent attitude of the medical profession to the danger signals that have been so prominently brought to the front by the lay workers, and urge the importance of physicians' displaying more active interest in nutritional problems and giving more hearty support and cooperation in solving them

ABSTRACT OF DISCUSSION

DR BORDEN S VEEDER, St Louis Every pediatrician has reached the point of view that malnutrition is an individual problem and not a group problem There are a number of causes for malnutrition, among which may be mentioned physical defects economic conditions, the environment of the child, and health habits If you take a group of malnourished children, you will find one who has cardiac disease, a second with hyperthyroidism, a third who does not have the proper amount of sleep, a fourth who does not get the proper amount or, perhaps, the proper kind of food and so on In other words in nearly every case of malnutrition, there is some one or more causes, and consequently malnutrition cannot be looked on or treated as a disease, but must be regarded as a symptom which may be produced by a number of causes In order to understand an individual case properly, it must be studied from all sides, not only the physical but the environmental The physician who sits in his office and tries to treat malnutrition by physial examination of the child alone, without entering into the life and habits and environment of the child, will not get very far, nor will the nutritional worker who tries to treat malnutrition by diet without understanding the physical background If one tries to reach the malnourished children in groups, each group must be small so that the individual child can be studied I think that the study of malnutrition has led us all to the conclusion that one of the chief factors is overfatigue The child who does not get enough rest whether it is from lack of sleep, or from overexcitement, overwork or something that has to do with its habits, is not a healthy child and is usually malnourished, whether or not there are any physical defects present The unfortunate thing about the subject of malnutrition is that it has been made a fad, and a good deal of the malnutrition which is said to exist in many of our schools, as a result of weighing children, is actually nonexistent We find that malnutrition is more common in the lower grades than in the higher grades, although no efforts have been made at all to correct conditions If one leaves a large percentage of the malnourished children alone for a year or so, a very large number of them will seemingly get well no matter how one treats them Although the amount of attention and notoriety that has centered about undernourished children and malnutrition in the last few years has probably done a lot of good by calling attention to the physical condition of the child, still it is my feeling and I know, the feeling of many pediatricians, that a grave mistake has been made by a great many persons in regarding it as a group problem rather than a problem of the individual

DR JOHN DILI ROBERTSON Chicago Lafcadio Hearn said years ago 'God never repeats His work" An individual once removed will never return or be duplicated through the eternity of eternities In other words, no two individuals, even in the same family, are exactly alike This being the case it is difficult to make standards for the purpose of determination of so called malnutrition The condition can not be determined by the same standards In other words, we have no proper standard for easy determination of the condition of nutrition By use of the yard stick the age and the scale, thousands of children throughout America have been labeled as suffering from malnutrition without the history of their forebears being taken into consideration In the majority of instances, a child follows the hereditary course of one or more of his ancestors There is undoubtedly much malnutrition This can be determined only by careful physical examination by an expert physician who is qualified to check up not only his digestive, respiratory and nervous systems but every other system of his body This cannot be done in the school, for it is necessary to check up on the blood and urine, and to make other laboratory tests To say that a child is underweight and therefore must be fattened up, with-

out a thorough examination, is to grope in the dark Would it not be better to investigate heart, lungs, kidney capacity, etc before advising Willie to put on a few more pounds, which will require more blood vessels perhaps, than heart can accommodate, perhaps more tissue than the excretory organs can care for? The so-called nutrition clinics in our public schools, during the last three or four years, have run the course of all fads, and, like every other fad, will disappear and be replaced by a sane program This program cannot be carried out by nurses or by physicians not specially trained In other words the grocery clerk system of weighing, aging and measuring must be abandoned for one conducted by trained medical men

Dr Allen J Hruby, Chicago The fad of the nutritional clinic has run its course in the public schools of Chicago, under the supervision of teachers and club women Our work in the Municipal Tuberculosis Sanitarium has shown us that some very careful work is necessary before we can adopt any standard Dr Grace S Wightman, with a committee of dispensary physicians, was selected to take charge of a group of schools, to see whether they could adopt a standard for nutrition by a careful anthropologic study of the children The final conclusion is that a careful clinical history and physical examination must be made together with a study of the economic and sociological conditions, also a complete laboratory examination and an investigation of the condition of the internal secretions, before any conclusions can be arrived at We have concluded in Chicago that all these points must be taken into consideration before we can make a diagnosis of malnutrition

Dr W L Holt Knoxville Tenn I have been much interested in this problem of malnutrition in the South One of the things I noticed was the shortage of milk I take 6 quarts of milk in my own family so that as a health officer I practice what I preach I found a great deal of malnutrition in Knoxville In one school in the poor district not less than 28 per cent of all children were 10 per cent or more underweight, and we found a great difference between the boys and the girls 18 per cent of the boys and 35 per cent of the girls being 10 per cent or more underweight That is one thing I am particularly interested in and I should like to ask Dr Clark or any one else what his explanation is regarding this difference in percentage between boys and girls I also want to ask Dr Clark what a reasonable amount of milk is for the average schoolchild I believe that a quart is reasonable, but some men think a pint and a half

Dr Isaac D Rawlings, Springfield Ill I have been much interested in this paper because in Illinois we have felt that when weighing and measuring of schoolchildren is done without any physical examination this procedure is more or less of a fad We have been really concerned over the possibility of doing harm by labeling children as sufferers from malnutrition, and giving them milk that is not made safe by pasteurization In 1911 we passed a law that no municipality could require tuberculin testing of the cattle supplying milk to the municipality, so we have no testing of tuberculous cattle except by virtue of the accredited herd act I have found by consulting the newspaper clippings that the various clubs throughout Illinois have organized a plan of weighing and measuring children and have then fed these children I understand that the milk is often not pasteurized and I am afraid that it is not safe and that the children are really in danger from it. As to their physical condition and the need of food, it seems to me that this feeding is ill advised unless measures are taken to see that pasteurized milk is supplied when it is necessary to feed these children If it cannot be obtained, commercially pasteurized, some method should be instituted whereby it is pasteurized at home or at school before being given to the children

Dr Florence Meredith, Philadelphia In Philadelphia, and perhaps everywhere, there is a tendency to overemphasize what may be done by merely weighing and measuring children and increasing the caloric intake Malnutrition is a medical diagnosis often most difficult for the physician to make Weight offers only one diagnostic point increasing the number of calories is only one remedial measure The technic of the lay nutrition worker, valuable as it is, should be supplementary to thorough medical work wherever possible Ideally, each case of malnutrition should be handled individually as to diagnosis and treatment The nutrition class has met a certain need, because of the large number of children to be dealt with But it is certainly not possible to do as good work with a group as with individuals The sooner we are able to treat malnutrition as a medical problem and an individual problem, the better All honor to those who have been successful with the class method, however For a long time yet it will be the only possible method of dealing with a great deal of the malnutrition

Dr James Stewart St Louis I cannot say that I regard the question of nutrition and the selection of children supposedly suffering from malnutrition as being entirely a fad In St Louis we have established a very efficient and conservative system We felt that the question of nutrition should not be in the hands of the teachers or school principals We believe that weighing or measuring of children should be entirely in the hands of the school physician or school nurse We were fortunate in having a demonstration carried on by the Pubic Health Service in St Louis a few years ago, and through that experiment we gained information that was so satisfactory that the board of education asked us to continue the work The school hygiene division asked that a college course in nutrition of two credits, be given to all school nurses This has been completed within the last few weeks We selected a group of children in the open-air schools, who were put on a regular routine of diet and health habits Those who were found to be physically impaired had their defects corrected and the home surroundings improved by conferences with the father or mother or the one responsible for the child With that cooperation, we believe that the work has been well done It is our object that all school systems throughout the land will leave that work in the hands of the school physician or the school nurse, because, with the experience of the physician and the nurse, these children will be brought up to the proper standard, and because of the child's improved physical condition he will be able to go through school and graduate with less effort possibly on the part of the teacher and of himself That is an economic advantage that should be recognized In our open air schools, the number of undernourished children and of cases of contagious diseases has been very low as compared with the regular elementary schools That shows what these health habits and the building up of the child suffering from malnutrition accomplish when children are brought up to a special standard and their resistance has been increased to such an extent that contagious disease in these schools is practically nil

Dr Taliaferro Clark Washington, D C The object of my paper is not merely to call attention to nutrition work by untrained agents but to sound a warning that they must not let their enthusiasm run away with them to the extent that they lose sight of the fact that malnutrition is a health problem On the other hand I must also sound a warning to those in authority and to practicing physicians that unless they wake up and take notice of underweight as a danger signal the lay workers are going to continue this work unsupervised and with potential unhappy results In regard to standard of physical development I believe that it will be rather difficult to accept or adopt a standard that would be applicable to every child in every part of the country Many factor must be considered in the preparation of such a standard The Public Health Service at present is beginning a nation-wide study of the physical development of children that takes into consideration numerous factors bearing directly on this problem One of the first steps considered was the standardization of the apparatus to be employed so that measurements made by different persons in widely separated communities would be exactly comparable Incidentally it was found that the accuracy of scales and other forms of anthropometric apparatus varied greatly This serves to call attention to the possibility of serious error in judging the state of nutrition not only because of the selection of an arbitrary standard of deviation from the normal to represent underweight but also because the instruments themselves, unless carefully standardized may vary to the extent represented by such arbitrary standard

ACCESSORY MUSCLE MOVEMENTS IN DELTOID PARALYSIS*

LEWIS J POLLOCK, M D
CHICAGO

The preservation of certain movements, the loss of which is supposed to result from injury to particular nerves, has been observed for many years Sherren[1] called attention to the fact that Swan, in 1834, was astonished at observing how much a rabbit could move its leg after experimental section of its sciatic nerve Later Letievant[2] studied this phenomenon and termed it supplementary motility Since that time, numerous investigators have observed its presence in various peripheral nerve lesions

Supplementary motility producing abduction of the arm in cases of complete paralysis of the deltoid muscle has been observed in a number of cases Few reports dealing specifically with supplementary motility in deltoid paralysis are found in English literature, and mention of it is often included in contributions dealing with broader subjects It therefore seems that it is of value to confirm and emphasize this observation

The first case reported was found in the almost inexhaustible fund of observations of Duchenne[3] Since then the condition has been noted by Robert Kennedy, August Hoffman, Loewe, Kron, Rothmann, Wendenburg, Oppenheim, Ross and others, and more recently by Sherren, Forrester Brown and most of the students of injuries to the peripheral nerves sustained in the late war, including Coleman, Ingham and Arnett, and Benisty

The frequency of supplementary motility in deltoid paralysis may be seen from the report of Bunts,[4] who, in 1903, found that in nineteen cases of circumflex nerve paralysis, seven patients recovered function, of the seven, four recovered function in the absence of the deltoid muscle

I have observed four cases showing this supplementary motility

REPORT OF CASES

CASE 1—S J, a man, aged 33, was struck on the head by a cable block, Oct 5, 1920, and sustained a fracture of the surgical neck of the right humerus When he regained consciousness, he noted that he was unable to abduct the arm to the side or to extend it backward About six months after the injury he observed that he could abduct the arm in a direction slightly and obliquely forward He was examined by me, July 13, 1921, when it was found that there was a complete paralysis of the deltoid muscle, with complete reaction of degeneration and a marked atrophy of this muscle There was an analgesia of the area of skin ordinarily supplied by the circumflex nerve He was able to abduct the arm obliquely forward to the horizontal position, and from this position to complete the process of abduction to a vertical position It was observed that the infraspinatus was hypertrophied During abduction the arm was rotated outward, and the pectoralis major became tense, apparently assisting in fixation of the head of the humerus into the glenoid cavity Rotation of the scapula occurred early, and it could not be determined with any accuracy how much real abduction of the humerus occurred during the first phase of movement The last phase was completed by the pectoralis major, supraspinatus and coracobrachialis Abduction backward was impossible

CASE 2—A T, a man, aged 23, was injured, Jan 15, 1921, when a box weighing about 500 pounds fell 60 feet, striking him on the shoulder He sustained a fracture of the scapula, of the humerus and of the radius and ulna at the elbow Following the injury he was unable to move the upper extremity in any way When examined, Jan 27, 1922, he had a brachial plexus lesion involving the musculospiral, musculocutaneous and circumflex nerves In addition to this he had a severe injury to the ulnar and median nerves as the result of a lesion in the forearm For the purpose of this communication it is unnecessary to describe in detail the brachial plexus lesion, it is sufficient to note that the deltoid, biceps and coracobrachialis were paralyzed The supraspinatus, infraspinatus, serratus magnus, trapezius and rhomboidei were conserved He noted that about six months following the injury he was able to abduct the arm completely when he rotated the humerus outward at the beginning of the movement It was observed that abduction was performed by first rotating the humerus outward by the infraspinatus, then a strong contraction of the supraspinatus, pectoralis major and triceps pressed the head of the humerus

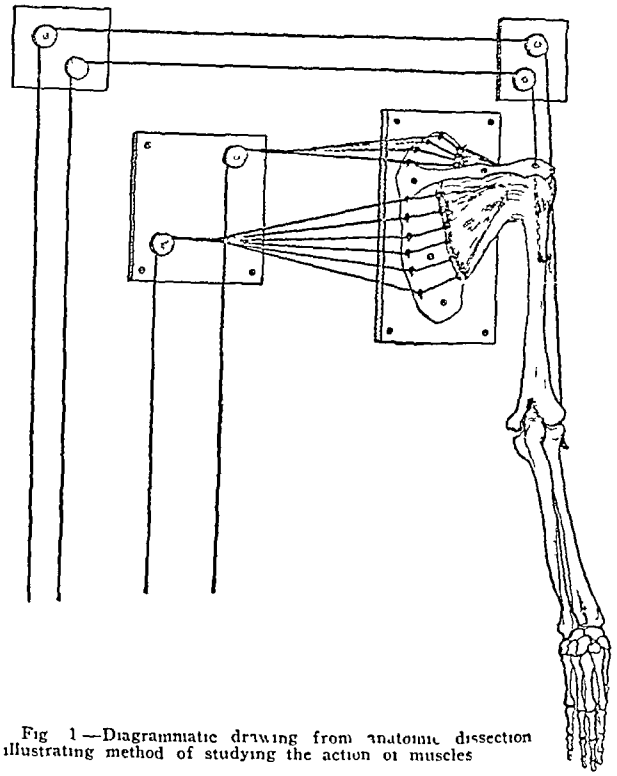

Fig 1—Diagrammatic drawing from anatomic dissection illustrating method of studying the action of muscles

into the glenoid cavity, when the scapula was rotated by a strong contraction of the trapezius serratus magnus and rhomboidei In this manner the humerus was abducted to an angle of about 100 degrees, when internal rotation occurred and the pectoralis major and probably the supraspinatus completed the abduction There was complete reaction of degeneration and almost complete atrophy of the deltoid muscle Abduction backward was impossible

CASE 3—N T, a man, aged 37, was injured, July 9, 1921, by falling a distance of 12 feet, landing on his shoulder and the side of the head Immediately afterward he found that he was unable to lift the arm, and subsequently noted that he was unable to abduct the arm except in a forward direction to a very limited degree About five months after the injury he was able to abduct the arm to the horizontal position but in an obliquely forward direction I examined him, Jan 23, 1922, when there was a complete paralysis of the right deltoid muscle with extensive atrophy, complete reaction of degeneration, and an analgesia occupying the area innervated by the fourth and fifth cervical segments Abduction was performed in three phases During the first phase

*Read before the Section on Nervous and Mental Diseases at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Sherren Lancet 1 726 (March 17) 1906
2 Letievant Traites des sectiones nerveuses quoted by Sherren (Footnote 1)
3 Duchenne Physiologie des movements 1867 p 78
4 Bunts Tr Am S Soc 21 521, 1903

the humerus was abducted, apparently by the supraspinatus, the infraspinatus, producing outward rotation of the humerus, and perhaps the coracobrachialis and long head of the biceps At about an angle of 60 degrees the scapula was rotated, as occurs normally, and the third phase was completed by the supraspinatus, pectoralis major and coracobrachialis Abduction in a backward direction was impossible

CASE 4—E D, a man, aged 45, was caught in a line shaft twenty-five years ago, and sustained a bilateral dislocation of the arms Following this he noted that he was unable

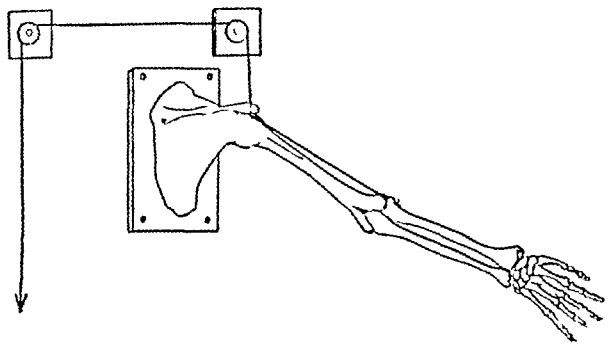

FIG 2—Abduction of arm to an angle of 60 degrees by the long head of the biceps

to abduct the right arm At the end of a year he began to draw it up along his side, shifting it backward so that he could get it into his trousers pocket About three years afterward he could abduct the arm to a right angle but could not flex and extend the forearm while the arm was in this position He continued to improve until the present date, when he stated that he experienced no disability or handicap because of the condition of his arm in the pursuit of his ordinary occupation On examination the deltoid muscle was completely atrophied The head of the humerus was covered only by skin and subcutaneous fat The capsule of the joint was lax, and a considerable space could be observed above the head of the humerus He was able to abduct his arm completely to the side and in flexion He could approximate the palms with his arms abducted fully above his head Abduction was performed in three phases, during the first of which the arm was abducted by the long head of the biceps, the supraspinatus, and in part by the infraspinatus and coracobrachialis When the arm was abducted in the position of external rotation he was unable to relax the biceps When the arm was abducted in the position of internal rotation, the biceps was seen to be flaccid, whereas the triceps became tense The second and third phases of abduction were completed about as in a normal person Abduction in a backward direction was impossible, although the patient was able to slide his hand backward and upward so as to reach his hip pocket

PHYSIOLOGY OF SHOULDER MUSCLES

The physiology of movements of muscles about the shoulder is somewhat complex, and current conceptions are obscure in some particulars and controversial in others

Until recently it was the accepted view that in raising the humerus to a straight angle, the deltoid elevates the arm approximately to a right angle, after which elevation is completed by scapular rotation This view will probably be modified through the investigation of Stookey,[5] who showed that the first cycle of elevation is accomplished by the action of the deltoid and supraspinatus, raising the humerus to about 60 degrees and accompanied by slight rotation of the scapula The second cycle is accomplished principally by rotation of the scapula due to the action of the serratus magnus, trapezius, rhomboidei and levator anguli scapulae, which raises the arm to approximately 115 degrees, and is accompanied by slight elevation of the humerus The third cycle is accomplished by elevation of the humerus from 115 degrees to a straight angle due to the action of the supraspinatus and deltoid, in which there is only slight rotation of the scapula He pointed out that the coracobrachialis and the clavicular head of the pectoralis major were associated with the deltoid in the final stage of elevation

The importance of the supraspinatus muscle was emphasized by Codman,[6] who believed that the deltoid could not act as an abductor of the arm unless accompanied in its action by the supraspinatus, whose power furnishes a fulcrum for the action of the deltoid, a view expressed in part by Winslow, in 1749 As pointed out by Stevens, the subscapularis, the infraspinatus and the teres minor act as tractors to pull the head of the humerus into the glenoid, fixing it firmly, and, beyond a certain point, the infraspinatus and teres minor behind and the subscapularis in front may possibly take on an added function, although it is probably to a limited extent namely, that of abductors as aids of the deltoid

Thus far we have seen that, in the first phase in which the deltoid is motofacient, it is supplemented by the supraspinatus and probably the infraspinatus and subscapularis, and in the third phase by the coracobrachialis and clavicular head of the pectoralis major

ABDUCTION OF ARM IN PARALYSIS OF DELTOID MUSCLE

How has the abduction of the arm in cases of complete paralysis of the deltoid muscle been explained? Duchenne showed in his case that it was the supraspinatus, the serratus and the trapezius which supplied the power, Kennedy[8] pointed out, in addition, the influence of torsion of the vertebral column Hoffman[9] considered the pectoralis major of prime importance It is the opinion of Kron[10] that the pectoralis should with the supraspinatus pull the head of the humerus into the glenoid, while the serratus by rotating the

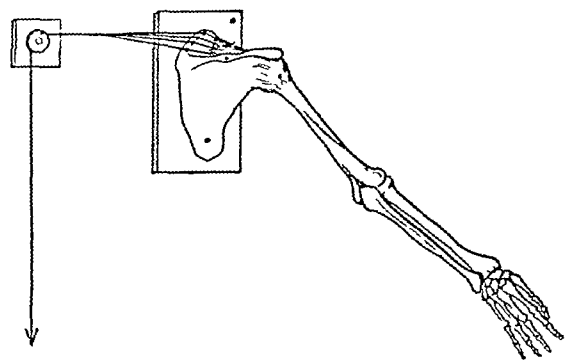

FIG 3—Abduction of arm to an angle of 45 degrees by the supraspinatus

scapula elevates the arm Loewe[11] attributed the action to the supraspinatus and trapezius Kron gained the impression that in his cases the upper part of the pectoralis major acted as a direct elevator of the humerus, aided by the supraspinatus and trapezius In one of his cases some assistance was given by the coracobrachialis and the infraspinatus

5 Stookey B Motofacient and Nonmotofacient Cycles in Elevation of Humerus Arch Neurol & Psychiat 4 323 (Sept) 1920

6 Codman Bursitis Subacromialis or Periarthritis of the Shoulder Joint Tr Massachusetts M Soc June 9 1908 p 13
7 Stevens Am J M Sc. 138 870 (Dec) 1909
8 Kennedy Brit. M J 1 1513 (Jan) 1898
9 Hoffman Neurol Centralbl 1899 p 113
10 Kron Deutsche Ztschr f Nervenh 15 133 1899
11 Loewe Aerztliche Sachverstandigen Zeitung 1899 p 302

To recapitulate, the accessory muscles were the supraspinatus, pectoralis major, coracobrachialis, infraspinatus, serratus magnus and trapezius No effort has been made to determine which muscles participate in any particular part of the movement of abduction

The function of each individual muscle under normal conditions is not an indication of its limitations in vicarious function For example, the coracobrachialis and the clavicular head of the pectoralis major, acting in the first phase of abduction, would act as flexors of

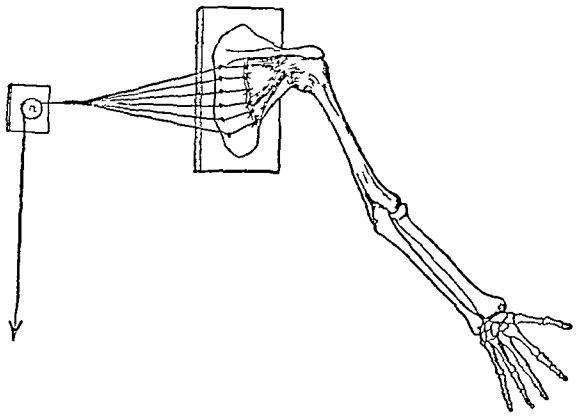

Fig 4—Abduction of arm to an angle of 35 degrees by the infraspinatus

the humerus advancing it forward, but if the forward movement be counteracted by the infraspinatus, it is possible that they may act with it to produce abduction

In an effort to understand the action of these various muscles, an anatomic preparation was made The various muscles about the shoulder and arm were resected, leaving stumps at their origin and insertion, and the joint capsule preserved intact Silk ligaments were constructed, attached to the insertion of the muscles and passed through rings at the point of origin, then through pulleys permitting traction in the direction of the normal action of the muscles The shoulder blade was then screwed firmly to a support (Fig 1) It was postulated that the contraction of a muscle could produce a movement only so extensive as would be shown by the angle remaining between the humerus and a vertical line after the muscle had been subjected to strong traction, and the humerus abducted passively to the vertical and slowly allowed to fall to the position at which the stretched muscle would support it It was seen that the long head of the biceps acted as a direct abductor to an angle of 60 degrees, that the supraspinatus acted as an abductor to an angle of about 45 degrees, that the infraspinatus produced an abduction of 35 degrees, accompanied by an outward rotation of the humerus and slight backward movement, and that the coracobrachialis brought the arm obliquely forward and upward to an angle of about 30 degrees The combined action of these muscles elevated the arm to an angle of about 65 degrees It was found that when the infraspinatus and coracobrachialis acted together, the former tended to counteract the forward action of the latter It was further found that when the arm was passively abducted to a position sufficient to permit the tuberosity of the humerus to pass under the acromial process, and when both the coracobrachialis and the infraspinatus were pulled on, the humerus retained this position, when the coracobrachialis was released, the arm fell to an angle of 35 degrees, and assumed a position of outward rotation (Figs 2, 3, 4 and 5)

From the observation of the clinical cases and the anatomic model, it would appear that there are two distinct types of supplementary motility which permit abduction of the humerus in complete paralysis of the deltoid muscle Of course, the movement of torsion or bending of the spine need not be included, since it only increases the distance between the dependent hand and the ground, and in no way abducts the humerus

The movement of abduction backward seems never to be supplemented, so that such a movement as is necessary to put one's hand in the hip pocket is impossible, although Kron stated that the teres major can supplant the action of the posterior belly of the deltoid His description of the resulting movement is unconvincing

The first type of supplementary movement is that in which the head of the humerus is firmly fixed in the glenoid cavity, probably by the subscapularis, the infraspinatus, the pectoralis major and the supraspinatus During this phase, external rotation of the humerus occurs The serratus magnus and trapezius, with the rhomboidei, and levator anguli scapulae, then produce a rotation of the scapula, elevating the humerus, some actual abduction may likewise occur Thus, the first and second phases of abduction are combined, but the second phase overshadows the first The third phase may be concluded by the supraspinatus, the clavicular head of the pectoralis major and the coracobrachialis (Cases 1 and 2)

The second type is that in which the first phase of abduction of the humerus may occur as the result of the combined action of the supraspinatus, the infraspinatus probably acting in conjunction with the coracobrachialis and possibly the long head of the biceps, the second phase of abduction occurs as in the normal by the action

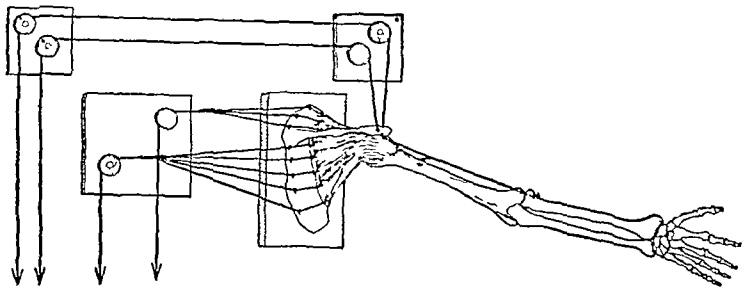

Fig 5—Abduction of arm to an angle of 65 degrees by the combined action of the coracobrachialis long head of the biceps supraspinatus and infraspinatus.

of the serratus magnus, trapezius rhomboidei and levator anguli scapulae, the third phase is completed by the coracobrachialis, the clavicular head of the pectoralis major and the supraspinatus (Cases 3 and 4) Of course, any one or more of these muscles may not participate in a given case

25 East Washington Street

Fixing the Mental Status of an Antivivisectionist—"I have no hesitation in calling him—Pasteur—the greatest charlatan of the last century" This is the matured opinion of Pasteur held by Dr Walter Hadwen of Gloucester England the leading antivivisectionist of Great Britain, who recently made a tour of propaganda in the United States It will be found in the *Starry Cross*, October, 1921 p 154

DETERMINATION OF DISABILITY AS TO LOSS OF HEARING, AND THE IMPORTANCE OF VERTIGO

IN INDUSTRIAL ACCIDENT CASES *

HAROLD A FLETCHER, M D
SAN FRANCISCO

A review of the files of the Industrial Accident Commission of California reveals the fact that during the last few years more than $60,000 has been awarded as compensation for disability due to accidents involving the ears These files convince one that the average specialist either considers his reports to the commission or insurance company as unimportant, or that he has no conception of what is wanted by them

If a man has an injury of his ears and is to receive compensation for it, a report must be sent to the commission or to the insurance company The report must give certain facts before the company will pay the compensation Briefly these facts are

1 A diagnosis of the trouble
2 What the cause of the trouble is or was, particularly whether caused by the alleged accident
3 The loss of function, if any, estimated in such a way (percentage preferably) that the accident commission can rate the man and the man be paid for his loss

If the specialist will try to fulfil these three things in his reports, the patient and the insurance company will both receive fairer play

In regard to estimation of the loss of hearing, I find that at present it seems to be pure guesswork I have found reports on the same case from three different physicians differing as widely as 65 per cent when each physician was using the same tests

TABLE 1.—TESTS OF HEARING AFTER CONCUSSION INJURY TO LEFT EAR

Right ear	Left or injured ear
5 meter watch at 3 meters	5 meter watch on contact
Whisper more than 5 meters	Whisper 50 cm
Voice more than 5 meters	Voice, more than 5 meters
Rinne, plus	Rinne plus
Air conduction greater than bone conduction	Air conduction greater than bone conduction
Bone conduction normal	Bone conduction lightly shortened

Weber referred to right

Tuning fork test averaging all forks

Right	Left
C = 48%	C = 55%
C_1 = 50%	C_0 = 40%
C_1 = 60%	C_1 = 35%
C = 50%	C = 10%
C_3 = 50%	C_3 = 40%
C_4 = 80%	C_4 = 70%
C_5 = 100%	C_5 = 0%
Average 60%	Average 40%

Differing from the estimation of the loss of vision there has been, so far as I know, no method of determining the percentage loss of hearing [1] The recent developments of the audiometer and the electric acoumeter may eventually become practical in this respect We have certain tests on which we base our judgments, namely, the watch or the acoumeter, the spoken voice, the whisper, the Galton whistle, tuning forks, monochord, etc, and the Weber, Rinne, Schwabach and other tests, which give us a line on how much a man hears, and whether it is a middle or internal ear condition It is difficult, however, to take the results of these tests and fairly estimate what percentage of hearing has been lost

I believe that there should be some system used in estimating these cases, and that such a system should be universal I have gradually worked out a plan which I am using and which is best explained if applied to an actual case

TABLE 2.—ESTIMATION OF LOSS OF HEARING IN LEFT OR INJURED EAR

Normal Hearing	Patient Hear	% Loss		Weight		Total
Watch 5 meters	on contact	99 8	×	10	=	998 0
Whisper 5 meters	50 cm	90 0	×	30	=	2 700 0
Voice 5 meters	5 meters	0 0	×	50	=	0 0
Forks 100%	40%	60 0	×	10	=	600 0
				Total	=	4 298 0

4 298/100 = 42 9 or 43% loss of hearing

A patient who had a concussion injury of his left ear was tested, with the results given in Table 1

With these data I roughly estimated his loss of hearing at 57 per cent in the left ear I did this by averaging all the tests on an equal basis

If a man loses his hearing in one ear, he obviously loses 100 per cent in one ear If, however, he hears with his injured ear watch on contact, instead of 5 meters whisper at 50 cm instead of 5 meters, and hears the tuning forks 40 per cent of the normal, how are we to arrive at his actual disability? For the watch, his loss is 99 per cent , for the whisper, 70 per cent , for the voice, 0, for the tuning forks, 60 per cent Averaging them gives us 57 per cent loss of hearing This is much too high, as the watch tick, which is only one unimportant test, brings up his disability, whereas the spoken voice and the whisper, which are the important things in his daily life, do not show great enough impairment to cause great disability A machinist who adjusts delicate machinery needs much more accurate hearing than the laborer or mine worker who needs his ears for spoken orders and as a protection for himself and others against dangers It occurred to me that a scale of weights could be used, rating the man on the different hearing tests, but putting more weight on the important ones One patient may hear a 5 meter watch tick only on contact, and hear a whisper at 5 meters Another hears a watch at 25 cm , and hears a whisper only at 2 meters

By a scale of weights is meant the taking of a total of ten or a hundred as the total for a man's hearing, and then dividing this into different parts according to the importance of the tests as far as his work is concerned Thus, if 100 is the total, the voice being the most important, 50 could be made the weight for the test, the whisper being next could be placed at 30, and the watch and tuning forks at 10 each Taking this as the normal we would estimate the foregoing case as in Table 2

Multiplying the percentage loss by the weight given to each test, and dividing the sum of these by 100, gives 42 9 or 43 per cent estimated loss of hearing

* Read before the Section on Laryngology Otology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Holt F E Economics of the Eye Ear Nose and Throat Tr Am Acad Ophth & Oto Laryng 1914

2 Dean L W and Bunch C C Results Obtained from One Years Use of the Audiometer in the Otological Clinic Laryngoscope 31 137 (March) 1921 Dean, L W Studies in Otology Using the Litch Range Audiometer ibid 31 743 (Oct) 1921 Bunch C C Demonstration of Improved Methods of Measuring the Tonal Range Showing Progressive Development of the Apparatus ibid 31 760 (Oct) 1921 Guttman John A New Method of Measuring Hearing Power by Means of an Electric Acumeter ibid 31 960 (Dec) 1921

Figuring out the right ear on this basis we find 8 per cent loss of hearing (Table 3)

In this patient the loss of hearing due to the accident should be based, not on normal hearing but on what he could be supposed to have heard before the accident In other words, the hearing in his right ear should be considered his normal hearing Thus, the loss of hearing due to the accident would be 43 per cent minus 8 per cent, leaving 35 per cent loss of hearing in the left ear due to the accident This I believe to be a much fairer estimate of what this man lost, as far as his disability is concerned in his particular work It will be noted that I originally estimated this at 57 per cent

TABLE 3—LOSS OF HEARING IN RIGHT EAR

Normal Hearing	Patient Hears	% Loss		Weight		Total
Watch 5 meters	3 meters	40	×	10	=	400 0
Whisper 5 meters	5 meters	0	×	50	=	0 0
Voice 5 meters	5 meters	0	×	50	=	0 0
Forks 100%	60%	40	×	10	=	400 0
				Total	=	800 0

800 divided by 100 = 8 per cent loss of hearing

The main point to be borne in mind is, that we should have one system by which to figure the percentage of disability, and then use that system in all cases I submit this not as an absolute final scheme, but for discussion There is to be decided first normal hearing and then what weight should be given to each of the various tests Furthermore, a watchmaker or an adjuster for delicate machinery should probably have a greater weight put on the watch tick and the tuning fork test at the expense of the weights on voice and whisper

VERTIGO

The next point is the symptom of vertigo following head injuries, such as fractured skull and concussion of the brain These patients often complain of several major symptoms lasting for a long period, namely, vertigo and instability, headaches, weakness, deafness, nervousness and a great many minor troubles Unless these patients are found to have definite evidence of an organic neurologic condition, they are placed in a class of functional disorders, namely, traumatic neurosis Until recently the otologist has not been consulted enough in these cases

The point that interests us as otologists is the fact that quite a number of these cases which are otherwise neurologically negative show very definite evidence of organic disturbance along the vestibular pathways The neurologic examination, therefore, should not be considered complete without a thorough neurotologic examination If the examination shows definite evidence of disturbance along the vestibular pathways these findings may be of the greatest help to the neurologist in differentiating between the functional and the organic cases

There are certain things to be kept in mind in making a neurotologic examination in these cases 1 Careful technic must be employed and any abnormal responses must be checked up 2 We must be guarded in the interpreting of our result One of the greatest criticisms of these tests, and justly so, is that otologists have attempted to go too far in their interpretations [3] 3 A great many of these cases show a big neurotic element, and it is well to remember that there have been a goodly number of cases reported in which abnormal reactions have been hysterical manifestations [4] Malingerers are encountered, and certain responses in these tests can be faked

REPORT OF CASES

The cases here reported were cases of head injuries which were neurologically negative, and therefore suspected of being functional or true traumatic neurosis, in which positive evidence of organic trouble was found as far as the vestibular apparatus was concerned

CASE 1—V S T, a man, received severe head and body injuries in June, 1918 He was referred in September for rating for hearing He complained at this time of headaches weakness and dizziness which had been pronounced a part of a traumatic neurosis by several other physicians Neurologic examination was reported negative

Hearing was reduced in both ears, of the nature of middle ear rather than internal ear type

Neurotologic examination revealed (1) spontaneous rotary nystagmus to right and to left when looking in those directions (2) spontaneous past pointing of the right arm 2 inches to the right and of the left arm 1 inch to the right, (3) turning to right, long continued past pointing but correct direction, (4) turning to left, long continued past pointing to *right* (5) caloric test right ear, responses within normal limits, (6) caloric test, left ear, past pointing to *right* and a perverted nystagmus (7) right arm, no past pointing to left on any stimulation

These responses I believe to be evidence of an intracranial, rather than a peripheral disturbance These would also be evidence of an organic cause for his complaint of vertigo and instability

Reexamination in December, 1920, disclosed practically the same abnormal responses except that the spontaneous nystagmus had disappeared

In May, 1921, the patient still showed the same abnormal responses

In October, 1921, he still showed the same abnormal responses

During this time the patient was improving generally as to the neurotic element and ability to negotiate work, and his dizziness bothered him less

CASE 2—M W a man, received severe head and body injuries in April 1921 He was referred in September, 1921 when his chief complaint was dizziness and headaches when attempting to do even light work, also constant tinnitus of the right ear

Neurologic examinations by three neurologists were practically negative

Examination revealed marked impairment of hearing in the right ear of internal ear type, and slight impairment of hearing in the left ear of middle ear type

Neurotologic examination revealed that (1) there was spontaneous past pointing of the right arm to the right, (2) turning tests could not be carried out as the patient could not hold himself in the chair (3) responses to caloric stimulations were somewhat delayed, (4) stimulation of the right vertical canals caused spasmodic twitching of the body and extremities which was more marked on the right side, (5) stimulation of the right horizontal canal caused nystagmus to the *right* and a tendency to conjugate deviation of the eyes to the right, (6) stimulation of the left vertical and left horizontal canals produced past pointing of the *right* arm to the *right* and subnormal past pointing of the left arm to the left, (7) the right arm could not be made to past point to the left on stimulation of any canal

Reexamination in March 1922 revealed practically the same responses although the patient was still neurologically

3 Weisenburg T H Traumatic Neurosis in War and Peace J A M A 78 596 (Aug 23) 1919

4 Sewall F C Demonstration of Case of Hysteria Simulating Brain Tumor Tr Western Sec Am Laryngol Rhinol & Otol Soc., Feb 23 1922

negative He still complained of dizziness, instability and headaches

In March, 1922, examination by Dr F C Lewitt revealed practically the same abnormal responses that I found

CASE 3—A W, who received severe head and body injuries in May, 1919, was referred in August as a possible malingerer

Examination revealed complete loss of hearing in the right ear and normal hearing in the left

Neurotologic examination revealed (1) spontaneous rotary nystagmus to the right on looking to the right, and to the left on looking to the left, (2) spontaneous past pointing 2 inches to the right with the right arm only, (3) turning test subnormal nystagmus, perverted past pointing of the left arm on turning to the right, subnormal and perverted past pointing of the left arm on turning to the left, falling after turning, much impaired in both directions, (4) caloric test of right ear, reactions absent except that stimulation of right horizontal canal caused a past pointing of the left arm to the *left* (5) caloric test of left vertical canals absent, nystagmus and past pointing after five minutes, left horizontal canal, normal responses

Reexamination in October, 1919 gave findings the same except that there was no spontaneous nystagmus The Wassermann reaction was positive at this time A thorough examination by a neurologist at the time was negative Nothing gave definite evidence that syphilis was complicating the injury

It is to be noted that Weisenburg[5] has reported a case similar to Case 2 in which the symptoms cleared up on settlement for damages It was not stated whether later neurotologic examination was made This is important, I believe, for the reason that as yet we do not know how long these abnormal reactions remain in these cases Further, we do not know, as yet, the exact relation these responses bear to the symptoms of vertigo and instability in these cases Lump sum compensation in the true traumatic neurosis case will often clear up a great many of the symptoms[6] If settlement will clear up the symptoms in cases in which evidence shows central organic disturbance, as in the foregoing cases, then we must revise our ideas as to what constitutes evidence of organic disturbances These things we do not know yet, but these tests, repeated over long periods, will clear up the question No matter what the answer, these tests must be considered important and should be made more often in these cases

CONCLUSIONS

1 More thorough examination, deeper thought and more careful analysis of industrial injuries involving the ears, and more comprehensive reports to the insurance companies should be the physician's endeavor

2 It is believed that the hearing can be more fairly estimated by a system of weights proportionate to the value of the tests for hearing

3 The neurotologic examination should be made of all patients with head injuries complaining of vertigo, as the findings in these examinations may be the only evidence by which the neurologist can differentiate the traumatic neurosis from those cases in which there are central organic disturbances

4 These patients should be reexamined over a period of years, if possible, to determine the relation of the duration of the symptoms to the duration of his abnormal reactions

135 Stockton Street

5 Weisenburg T H (Footnote 3) Equilibrium and the Vestibular Apparatus Arch Neurol & Psychiat 7 210 (Feb) 1922

6 Schaller W F Diagnosis in Traumatic Neurosis J A M A 71 338 (Aug 3) 1918

ABSTRACT OF DISCUSSION

DR CHARLES G STIVERS, Los Angeles With the growth and development of industrial medicine, insurance companies and state accident commissions have demanded that physicians estimate the loss of function systematically and accurately Otologists are behind in this particular work, as they have not as yet produced any method by which it is possible to estimate the percentage of hearing lost Offhand, this would seem difficult to do, as our judgment of hearing is based on several different tests, each of which has a different value, but practically it is interpreted in terms of the amount and quality of function required in a given occupation compared to what remains in any given case This paper is an attempt to arrive at a fair estimate of what a patient has lost Any method must be purely an estimation, but such an estimation should rule out 'guesswork" as far as possible Furthermore it should be simple and clear So far as I know, there has never been any such method produced This plan would seem to me to be a reasonable and fair one, it is easy to follow out no matter what the tests used It has the advantage, furthermore that the weights used can be changed in certain cases in which a man's occupational efficiency is more dependent *auditorially on certain sounds, in the upper, middle or lower* tone scale for instance in machinists, stenographers, salesmen watchmakers musicians and teachers appreciation of the difference in upper and lower tone scale is necessary The second part of the paper deals with the importance of vertigo following head injuries If the neurologist can get definite evidence of organic disturbance in the brain in these cases it helps him to separate these disturbing cases The importance of careful vestibular examination in such cases is demonstrated in the examples shown These cases were otherwise neurologically negative It is to be noted that Dr Fletcher has not attempted to localize the lesions, but has confined himself to saying that evidence points to an intracranial rather than a peripheral disturbance This, I believe is both safe and conservative Systematic examination of the amount of hearing, as well as eyesight and other evidences of physical condition of all employees, would seem to be necessary to find out what the real loss from injury is in a given case It might become necessary to have such a record of every employee when starting to work

DR JOHN A DONOVAN Butte Mont As Dr Stivers has said from the economic standpoint you have to put in another factor—occupation I had a railroad dispatcher sent to me for examination because the chief thought that the man was not able to hold his postion I suggested that he be taken away from the telephone and be given service as a telegrapher With a certain kind of voice he was unable to hold his position, but in telegraphy that factor did not come in Dr Fletcher is aiming to get under ordinary conditions, with ordinary people just what hearing they have lost His propositions appear to me quite reasonable But the big factor about the paper is that it gives us a key to start working and in a few years we can arrive at something quite definite

DR GEORGE E SHAMBAUGH, Chicago This is by no means a simple problem I have had a good deal of experience in examining patients who were supposed to have sustained injury to the hearing It is important in such cases to remember, first that it is a very common thing for people to believe that by feigning a defect in the hearing they will be able to get damages for supposed injuries, another is, that when we come to examine the hearing even when we are convinced that there is a defect we must always take into consideration the question as to whether there has been some defect previous to the injury Dr Fletcher tries to work out a system by which this can all be checked up I was stationed at Camp Grant during the most active demobilization period, and I was called to pass on a great many cases in which there was some apparent defect in the hearing and to determine whether this defect could be the result of war injuries There are two ways by which the hearing may be injured by traumatism One is by concussion, that is explosions near the ear, the other is by an injury from a blow on the head Now let us consider a moment what is the nature of the injury

to the ear in these two conditions Concussion may or may not rupture the drum membrane Explosions near the ear may result in a partial or complete loss of hearing After an injury of this sort a partial or a complete restoration of the hearing may take place When there is a defect due to a fall or blow on the head we may again have a rupture of the drum membrane or an injury to the internal ear In cases resulting from a rupture in the drum membrane, only a temporary slight impairment is experienced The big question in most of these cases is whether or not the head injury has resulted in a traumatism to the labyrinth My own opinion is that an injury to the labyrinth from a blow on the head is always the result of a basal skull fracture Such injuries destroy completely and permanently the function of the internal ear so that the patient experiences not only a total loss of hearing in that ear immediately after the accident but also a marked disturbance of equilibrium vertigo and nausea I have never been convinced that a blow on the head can result in only a partial loss of hearing As far as the intracranial lesions are concerned which may affect the hearing center these are still more problematic than the supposed injuries to the labyrinth resulting in partial loss of hearing I studied one case rather carefully at Camp Grant, in which the patient had an injury in the temporal region from a bullet wound and I was convinced that an injury to the hearing center in the cerebral cortex was the cause of the defect in the hearing

DR J W CHARLES St Louis I want to disagree with Dr Shambaugh that a blow on the head causes entire loss of hearing A young girl fell on the ice She was not unconscious but dizzy She came the following day with a bloody infusion into the middle ear This promptly cleared up and gave her absolutely normal hearing with no internal ear inflammation On the day I first examined her there was no discoloration of the skin back of the ear This appeared the following day and persisted for several days I was very glad to hear Dr Fletcher present this paper because I think this subject is one on which we need enlightenment and possibly some way of coming to conclusions on which to base our findings to the industrial commission in accident cases I had a case of a structural iron worker who was struck on the head by a beam and was unconscious for several hours He recovered but still complained of dizziness Brain tests were normal but he still complained of dizziness, and certainly it was impossible for him to undertake any such hazardous occupation as that of structural iron worker Dr Fry of Vienna was here at the time and I had him see the man He brought out the point that if the injury had been complete so that there was a complete loss of function of the labyrinth on one side the man ultimately could have engaged in his occupation, but since the injury was not complete but only irritative, the probability was that his dizziness would never disappear

DR WILLIAM HOUSE Portland, Ore The neuropsychiatrists are a forgiving group Years ago the oculists took our headache cases and the gynecologists took the female half of our practice among the insane Then the dermatologists started to cure our paretics and tabetics, and now it looks as if the otologists were trying to take what little we have left This time I think that most neurologists are in sympathy with them, believing that they are the right people to make the tests under discussion The otologist alone has the correlated knowledge of the labyrinth which is essential if one is to make these tests correctly But I think that we need these tests in relatively few cases Dr Fletcher has presented an idea that seems worthy of further investigation Many patients with head injuries have no neurologic symptoms excepting vertigo This vertigo is increased by bending the head forward or backward and I believe that it may be due to alterations of tension of the cerebrospinal fluid The head-neck articulation is in close proximity to the anterior and posterior cisterns which are filled with cerebrospinal fluid, and it is quite likely that changes in position may cause alterations of tension which may extend along the sheath of the auditory nerve or possibly to the endolymph of the semicircular canals themselves Of course, if there is any injury in the region of the canals or at the base of the brain it could readily influence the sensitiveness of these parts to changes in position If the Barany tests are to be used in traumatic cases, care should be exercised The tests themselves may constitute additional trauma in neuropathically inclined persons, and such results may be construed as due to the original accident Especially when suit is to be instituted they should be cautiously used or not at all at least until their value has been determined in traumatic cases not in litigation I congratulate Dr Fletcher on giving us a new thought that there may be a relation between traumatic neurasthenia with its attendant vertigo and the vestibular apparatus which may be cleared up by the Barany tests I shall try to apply his observations in some of my own cases

DR M A GOLDSTEIN, St Louis As I understand Dr Fletcher's paper, he is endeavoring to develop a system of calculation of the percentage of hearing That percentage is possible in some of the tests as, for example, in the voice, but I am not enough of a mathematician to follow his calculations of the percentage of hearing in the use of the tuning fork There are no two men who handle the tuning fork alike and before you can get a definite percentage calculation in the use of the tuning fork you must standardize the tuning forks and their methods of use

DR HAROLD FLETCHER, San Francisco In reply to Dr Shambaugh of course this paper presupposes that you have made a careful examination and taken a careful history In these cases we must take a particularly careful history as this may be of greatest importance in deciding whether the accident caused the deafness Dr Shambaugh states that it is his opinion that a blow on the head will cause either complete loss of hearing or no loss at all, with the exception of deafness due to concussion through the middle ear I think that if one will look over the reports of head wounds during the war one will find that complete or partial loss of hearing has followed wounds of the head without destruction of the vestibular apparatus I had three of these cases myself The length of time vertigo remains after destruction of the labyrinth or eighth nerve has been pretty well worked out and is comparatively short In traumatic neurosis cases, following head injuries, however vertigo is complained of for as long as three or four years Most of these cases show no evidence of organic intracranial lesions as far as the neurologic tests are concerned Some of them do as in the cases mentioned These tests, then are of greatest importance in differentiating between those having an organic basis for the vertigo and those which are purely functional Certain abnormal responses to these tests have been taken to mean organic intracranial lesions If the vertigo clears up after settlement in these cases we shall be forced to revise our opinions As to the tuning fork tests that Dr Goldstein mentioned, this of course presupposes that one is making careful tests and one knows one's own tuning forks The growth of industrial medicine and the compensation of injured employees is making more demands on the medical profession If otologists report that a man has a loss of hearing due to an accident the commission is promptly going to ask "What per cent?" The ophthalmologist has produced methods for estimating loss of vision It is up to otologists to do the same for hearing, otherwise we are put in a very poor light

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Factors of Safety—Every normal individual has within himself large factors of safety If much of the normal margin of safety is consumed before injury then so much the more readily does the wound produce what is called shock On the contrary, a soldier wounded soon after his arrival at the front, while he is still fresh may show no immediate shock—for shock appears only after the factors of safety have been consumed, just as the Marathon runner is not exhausted at the beginning but at the end of the race Tens and hundreds of thousands of troops en bloc may be in a state of chronic exhaustion or in a chronic state which predisposes to shock It may take a serious wound and the lapse of hours to reduce a fresh soldier to the shock level of the battle exhausted soldier without a wound There is probably no ultimate difference between the exhaustion produced by the privation and stress of war, and that produced by the bodily injuries of war—G W Crile "A Physical Interpretation of Shock, Exhaustion and Restoration, 1921

NEED OF STANDARDS OF TRAINING

FOR SPECIALISTS, GENERAL PRACTITIONERS AND TEACHERS OF SPEECH CORRECTION *

CHARLES G STIVERS, M D
LOS ANGELES

Every one whose practice has anything to do with children realizes that the time is ripe for the development of a program for the study of the problems of defective speech, for about 5 per cent of all children have some form of speech disorder Institutions, boards of education and child welfare centers everywhere are asking for physicians to enlighten them on *the prevention and correction of speech disorders*

Disorders of speech are increasing, partly because of the great revival of interest in education since the World War, as our system of public school training favors the production of more crowding, more psychoneuroses and more defects of all kinds, including speech disorders Many foreigners in the larger cities who are learning to speak English at school are forced to speak their native language at home, this conflict often produces some form of speech defect The World War has been followed by a large number of psychoneuroses many with some form of speech defect, and this condition has helped to focus attention on the prevalence of speech disorders in adults, and compelled a better understanding of their frequency and importance

There are about 1,000,000 children with speech defects in the United States, and the problem is a serious one because these children must go to school while having corrective methods applied But at present there is no agreement among teachers as to the best methods to use, and physicians are not yet, as a body, sufficiently qualified to establish standards of diagnosis, pathology, prognosis and treatment

In the training of physicians to diagnose and treat these conditions, it is evident that some form of differentiation must be made in the amount and character of the training 1 What shall the medical college offer the undergraduate? 2 What shall constitute or be considered an adequate amount of time to be devoted by a physician who wishes to become a specialist in speech, and of what particular subjects shall his training consist? 3 How shall teachers of speech correction be trained?

It is suggested that the premedical period of study should contain more psychology, introductory, general and genetic, with a survey of mental development in children and adolescents Abnormal psychology, including mental deficiency, truancy, mental measurements and the psychology of backward and abnormal children—there are 5,000,000 abnormal children in the United States, according to Lightner Witmer—must also be a part of the special training Where in the curriculum these subjects can be introduced, in the premedical or undergraduate school, I do not attempt to say That is a question for a committee to decide I suggest only what I consider to be necessary training

The specialist requires, in addition to general knowledge, a much more intensive training than would be necessary for undergraduate students who should be required to know something about the diagnosis, prognosis and treatment of a case of disordered speech, but should not, unless specially trained and of proper original endowments, undertake the cure by corrective training methods The specialist should be a physician who has had some special training in artistic voice and speech production, and in the diagnosis and treatment of the functional derangement as well as the pathologic conditions of the voice and speech producing organs The present lack of competent advisers is responsible, *in a large measure, for the great number* of untrained voice teachers who ruin untold numbers of voices and cut short many a promising vocal career There are many physicians whose language and temperament unfit them for special corrective work with children with speech troubles For instance, a foreigner who speaks English with a foreign accent is not a good example for children to imitate Especially is this true in cases of lisping, substitution and oral inactivity The specialist should have had in his premedical training a thorough course in psychology, and, in his special work, he should become proficient in the diagnosis and treatment of the diseases of the nervous system, especially in children, and of the affections of the ear, nose and throat, since the psychology of speech is a linking together of the psychology of the phonatory, articulatory, respiratory and auditory systems Because of the very large numbers of backward, subnormal and deficient children who have defective speech, the training in both normal and abnormal psychology is absolutely necessary for the specialist

The intelligence tests employed in the World War showed that 45 per cent of those who were examined, or about *one half of the total male population*, had a mental capacity or natural ability that would never develop beyond the stage normal to a 12 year old child They are doomed to remain forever subnormal[1] As there are many millions of our population who are mentally deficient, every medical graduate should be able to recognize mental deficiency in his practice, for several reasons, one of which is that a large number of subnormal persons have speech defects It is essential that persons with speech defects be graded mentally in order to do them justice in a social sense, so that the corrective methods applied to them, which may be followed by an anticipated result for speech training will not be expected either to raise or to lower mental capacity Medical schools should teach the relation of the teeth to phonetics, the role of dental irregularities, and the relation of malocclusion and cleft palate to language ability

Recent studies reveal speech difficulties in the fields of orthopedics and pediatrics My investigations show that there are twice as many cases of speech disorder among physically handicapped children as among normal children of school age The speech training of these children will demand teachers who have special knowledge of physiotherapy and vocational guidance *and a comprehensive knowledge* of the application of systematic training as a means of reaching mental levels Teachers who wish to apply corrective methods should have the following qualifications

1 They should be graduates of a normal school, college or university in which there was sufficient instruction in normal and abnormal psychology to prepare *them* for the understanding of the problems of defective speech

2 They should be naturally endowed with an aptitude for handling nervous children

* Read before the Section on Otology Laryngology and Rhinology at the Seventy Third Annual Session of the American Medical Association St Louis May 1922 in connection with the film Development of Speech and the Use of Speech Drill in Orthopedic Cases

1 Berman Louis The Glands Regulating Personality

3 They should be quick in auditory perception, should have well trained voices, and should be able to impart their knowledge to others

4 They should be possessed of poise, patience and a love for the exacting demands of their careers

5 They should be trained in corrective gymnastics and be able to diagnose the commoner forms of bad posture, notably, faults in spinal alinement and foot and leg conditions, and they should be able to apply their knowledge of corrective exercises in the curing of respiratory and developmental faults

6 They should understand phonetics both in the organic and the acoustic sense, and they should have some training in diction, dramatics, public speaking, elocution and class management

We acknowledge the fact that it is better to prevent than to attempt to cure, so it is recommended that large cities have child welfare centers, preferably connected with, or the work supervised by a staff of, a university medical school or hospital A speech clinic, as an integral part of such a center, should have as director a physician who has been trained as a specialist in the diagnosis and treatment of speech disorders The consulting staff working with him should consist of specialists a pediatrician a neuropsychiatrist an ophthalmologist an ear, nose and throat specialist, a dentist with special knowledge of orthodontia, an orthopedic surgeon, and an endocrinologist, who might also be the pediatrician

Our language, English with American modifications, changes from generation to generation A word may have one sound today and a totally different one in fifty years, or a modified sound in different parts of the United States, because there never can be any arbitrary standard for pronunciation for the whole country Our aim, as speech defect specialists, must be to provide a standard of correct speech production, so that the children of today may have the ability to express their ideas in fluent English, and have no hesitation over word utterance We must cooperate with boards of education to obtain these desired conditions Accordingly, it would be wise to have a teacher of normal speech associated with a group of speech specialists The corrective methods should be applied by assistants, either men or women, with the necessary natural endowments already referred to, trained in the practical application of corrective methods, including the reeducation of the deaf

It will be necessary for those of the medical profession who are now trained as specialists of speech disorders to agree among themselves, after conferences discussions and trials of methods, on a program for a comprehensive study of the entire field of oral expression After this is accomplished, they must interest the men in the medical profession, as a body, by showing the need for a better understanding of the problems of defective speech, in a national campaign for better training of all physicians, specialists and teachers When medical schools realize that the demand exists they will inaugurate courses in this field, and the training of physicians in this specialty will no longer be subject to the criticism it now merits, because of its lack of recognized, accepted and practical standards So-called schools which guarantee to cure speech defects, if the students live up to every one of the multitude of rules and restrictions, usually impossible to follow, will be replaced by standardized methods The stammerer especially will be taught by reeducation and training to adapt himself to his home surroundings not sent away to be "cured" and then returned to his home to become again a stammerer

SUMMARY

The time is favorable to the development of a program, by the medical profession, for the study of the serious aspects of, and the correction of, speech disorders

Five per cent of all children have speech defects, *calling for correction*

Speech defects are increasing, owing to revival of interest in primary education, with overcrowding, competition, psychoneuroses and foreigners

The World War has produced many psychoneuroses, many with speech difficulties

The orthopedic and psychiatric fields furnish many cases

The medical profession, as a whole, is not qualified as yet to establish standards of speech correction

It is necessary for those now trained in the theory and practice of speech correction to agree on standards to begin a program of education of the men in the medical profession, and to secure cooperation of educators

When medical colleges realize that a need exists, adequate facilities for training will be offered to undergraduates, specialists and teachers

The nature and scope of the training must be determined by committees, conferences and discussions

406 Auditorium Building

ABSTRACT OF DISCUSSION

DR M A GOLDSTEIN St Louis This is the first time I have ever had the opportunity of seeing corrective speech demonstrated when it could also be definitely studied with a slow motion camera I was much impressed in Washington a few weeks ago at the work done experimentally on the labyrinth of animals and the splendid demonstration by the slow motion camera of the removal of the labyrinth under different conditions, and the action of the slow motion camera in the study of this unusual series of changed musculature I congratulate Dr Stivers on the philosophy he has presented in the relationship of individual spastic muscle conditions to the general muscle contraction that one finds in so many of the larger groups of crippled children I should like to know what proportion of the patients Dr Stivers examined have defects in speech The medical man in his study of speech defects and their correction not only must consider the mechanical element of correction, but also ought to be a fairly universal specialist in the study of his cases He must study the psychology he must know anatomy, physiology and speech machinery he must know the relation of breathing to the muscles of the mechanics of speech, he must know the peculiar adaptability of the defective child to its defects, and he must know the pedagogy with which these defects are definitely improved It is not such an easy thing to go into a room where corrective speech patients are being given instruction, make a few observations, and go away feeling that one has studied the situation thoroughly One cannot make an expert in handling corrective speech cases over night, any more than one can make an expert otologist over night An expert, whether teacher or physician should know anatomy, physiology and pathology, besides the mechanics that go into the correction of the speech defect

DR ELMER L KENYON, Chicago I have had a little experience with the spastic child with reference to the speech problem The problem is prodigious, and I congratulate Dr Stivers on having had the courage and intelligence even to attempt to tackle it on a large scale I should like to ask him to state more definitely what results he is able to get with children who are distinctly spastic in the mouth region Dr Stivers' demonstration points clearly to the fact that speech disturbance is not a laryngologic problem alone *Dr Goldstein*

brought out that point I venture to say that etiologically 90 per cent of the cases of speech defect have their cause in the brain They go into the field of the psychologist, the psychiatrist and the child specialist If we focus our attention too closely on the mere treatment of disorders of speech we may forget the larger problem the distinctively medical problem, i e etiology and prevention We are developing a most interesting system in the public schools of treating defects of speech a most valuable thing, and yet if we are not careful it will be so superficial that we shall have largely to do it over The foundations of defects of speech have occurred long before the school age These defects should usually be attacked when they are beginning It seems to me that we as physicians should endeavor to strive to advance speech problems largely from an etiologic standpoint and a preventive standpoint, and that for the largest success the psychiatrist and the pediatrician must be brought definitely into the problem

DR DENNIS J MCDONALD New York Years ago I was one of the commissioners of education in New York and introduced this work in public schools and today I am much pleased and take new heart because of the work of James Sonnet Greene He has founded a national hospital for the cure of speech defects This is a wonderful demonstration we have had today It is a work for the nation and for the women

DR LOUIS K GUGGENHEIM, St Louis I want to subscribe most heartily to the statement that this is a tremendously important subject, but I want also to sound a note of warning This work is not for the otolaryngologist A few years ago, feeling the necessity for some one to do something for these patients, I went to Europe to study the subject, naively ignorant of the size of the problem I was going to practice otolaryngology, and in my spare time treat speech cases I opened a clinic at Washington University, and had a sign painted Speech Defects' Being connected with the ear department I could spare only three afternoons a week for the speech clinic I had two patients to begin with the next week there were five the next ten then fifteen and finally I was overwhelmed This was not because I knew anything about speech defects but simply because so many persons were afflicted The thing became a Frankenstein monster, and I had to give it up The treatment of speech cases is not for otolaryngologists, and I doubt very much whether it is for physicians at all It is a woman's job We have neither the patience nor the time I think that Dr Goldstein has really solved the problem and he certainly deserves the support not only of St Louis but also of the whole country This demonstration may give an erroneous impression There are thousands of cases of spastic speech defects that have nothing to do with general spastic conditions, also these patients impressed me as being mentally subnormal children There are innumerable bright persons who are stutterers, and thousands of orthopedic patients that have no speech defects

DR J A STUCKY Lexington, Ky Laryngologists have been using too many sprays and too much electricity in the larynx for the correction of speech defects, when the trouble was not there I should like to ask the author about one point in which I am much interested, and that is about the endocrine insufficiency What test did he make to determine this? My experience has been that we usually find hypopituitary and hypothyroid conditions but I am not satisfied with the tests I am making

DR. CHARLES G STIVERS, Los Angeles Not knowing anything about endocrinology, but having in my office an endocrinologist I turn these patients over to him and he gives them proper examination and treatment We have in this series two or three cases of endocrine dysfunction, and they are hypothyroid and hypopituitary cases I limited my statements about speech to the fact that speech production proceeded from stored muscle memories I did not say that speech began with the motor areas I said that one can move a muscle only if one has an inherent muscle memory which has been stored in the brain at some previous time A clearing up of most of the questions will be found in the paper itself which I did not read The paper itself is an academic discussion of the need for education of physicians and others who are to take up the work This film is a practical demonstration of the application I heartily agree with what Dr Goldstein said In the whole treatment of the spastic child I refer to the child who has other expressions of spasticity—not the spastic stutterer, which is a purely central manifestation The case is first approached by the orthopedic surgeon to make a diagnosis and apply corrective treatment—operations surgical dressings braces, etc—and to get the child into proper condition in which it can be given these exercises for the building up of muscle tone One of the best results we obtain in the treatment of the mouth and throat is the disappearance of the drooling This disappears when we build up the tonicity of the mouth muscles The work is so new and has gone on such a short time that we are not able to state definitely what we can do except with the vowels We have worked very little with the consonants, because the spastic cases tend to overact and we do not wish to pursue any line of treatment or exercise that would call for any more exercise of the muscles than is absolutely necessary The speech defect specialist is not only an otologist He also needs training in otolaryngology and ophthalmology, because speech may be both written and heard There is also a lot of psychology and neuropsychiatry and pediatrics, as well as study of how to produce articulation that can be interpreted by others and there one has the problem of knowing something about pedagogy I am perfectly willing to have young women of the right personality and manner to do the training and merely act as adviser leaving this active treatment work to the young women themselves

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IS DEATH IN HIGH INTESTINAL OBSTRUCTION DUE TO LIVER INSUFFICIENCY?*

AXEL WERELIUS, M D
CHICAGO

Death in acute intestinal obstruction is almost generally conceded to be due to a toxemia derived from absorption of toxic products accumulated in the intestine above the obstruction The higher the obstruction, the greater the supposed toxicity, and the more rapid the fatal issue In order to examine this toxic material, segments in various parts of the intestine have been tied or sectioned off The results are practically the same as in ordinary obstruction

If the duodenum in a dog is ligated, or sectioned above and below, the animal dies in from twenty-four to forty-eight hours For several hours subsequent to the operation (sometimes twenty-four hours) the animal shows nothing abnormal, then the symptoms are ushered in rather suddenly with signs of increasing weakness and extreme sluggishness There is no restlessness, no irritability, no convulsions The animal lies down and refuses to come when called It does not seem to suffer As a rule, after twenty-four hours the temperature becomes subnormal with increased pulse and respiratory rate Very rarely is there any vomiting and then only after something has been eaten Constipation is complete The outstanding feature is a progressive asthenia

Death then occurs very rapidly and, as above, is thought to be due to absorption of highly toxic products in the loop of the duodenum If this were the true explanation, there would be some excuse for reasoning that if these toxic products would be drained out of the loop of the duodenum, the life of the animal, if not saved would at least be somewhat prolonged or, in other words, death would be delayed However, in

* From the South Shore Hospital Laboratory
* Read before the Section on Obstetrics Gynecology and Abdominal Surgery at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

thirty dogs, the loop was drained, and all died within the same period of time with the same symptomatic phenomena as do dogs with undrained loops

These experiments of draining the loop, if not disproving the presence of a toxemia, at least throw great doubt on absorption of toxic products from the loop as the cause of death It is doubtful whether very much, if any, absorption takes place in this region of the intestinal canal It is probably more of a receptor of only partly digested food products not ready for absorption until farther down the intestine after having been acted on by the bile and pancreatic juice In other words there is really not much need for absorption in this area

In obstruction farther down, absorption does of course take place, but, at any event, the presence of toxic substances in the blood in cases of obstruction has yet to be demonstrated In four normal dogs intravenous injection of from 10 to 20 c c of blood taken from bowel-obstructed moribund dogs showed no untoward symptoms whatever Toxemia has been produced by intravenous injection of the contents of an obstructed intestine, and the result in this case has been used in favor of the toxic absorption theory Undoubtedly the intravenous injection of normal bowel contents will also cause a toxemia

It is suggested that most of the offending toxin is absorbed from the cells of the mucosa of the obstructed loop If this supposition is correct, it would explain the inefficacy of draining the obstructed loops Extract from mucosa of these loops, injected intravenously into normal dogs, should then obviously reproduce the supposed toxemia in bowel-obstructed animals In three dogs, however, such extracts, injected intravenously, caused not the slightest disturbance Toxin in sufficient amount to kill the animal is not absorbed from the cells before gangrene has taken place, as the animal can be saved by operation in this period

The deadly damage must occur apparently, in the period of gangrene, which would then be a necessity for systemic dissemination of the deadly toxin That, however, is not so, since animals with drained loops that die with identical symptoms show no sign of gangrene or in fact, any other pathologic change Furthermore, absorption from mucosa cells is hardly possible, coffer-dammed as they are either by a bowel wall with complete vascular stasis or a bowel wall disorganized by gangrene

Ellis,[1] who reviews the entire literature of obstruction research, asserts that he has isolated a toxin from the intestinal contents and from the mucosa of the obstructed loop The toxin injected intravenously in dogs with no intestinal obstruction reproduces the clinical symptoms of obstruction, which Ellis says are vomiting, retching, diarrhea and tenesmus I have never seen diarrhea as a clinical symptom of obstruction either in men or in dogs Constipation, on the other hand, is a constant and universally observed symptom

The toxin described by Ellis was isolated from the mucosa of the obstructed loop As the toxin was taken after, or shortly before, death, it was obtained from an abnormal pregangrenous or gangrenous mucosa

Ellis stated that extract from nonobstructed intestine, that is, from normal intestinal mucosa, did not cause disturbance such as was caused by extract from obstructed intestine Extracts from normal and abnormal, especially gangrenous, tissues would not be likely to have similar effects Extracts from gangrenous intestine farther down, or from other gangrenous tissues, should be used as a control I would not be the least surprised if injection of such extracts would cause clinical and pathologic manifestations simulating those caused by the toxin described by Ellis

It has been asserted also that the toxin is bacterial and that the action of bacteria on necrotic tissue is the main factor in these deaths That bacterial activity plays a deciding role in acute intestinal obstruction seems exceedingly doubtful because death comes on rapidly in high obstruction in a region practically void of bacteria, and death comes on much more slowly in obstruction of the lower intestine, teeming as it is with a multitude of various organisms If the action of bacteria was a determining factor, the reverse ought to be true

Dragstedt[2] and his co-workers who advocate this theory, washed the loops with either alcohol or compound solution of cresol, aiming to destroy bacteria present Such treatment should, of course, be most effective in the duodenum almost void as it is of bacteria In fact, duodenal loops with both ends open caused no trouble whatsoever in some of the animals, showing conclusively how harmless or nonpathogenic the organisms must be in this region In spite of this favorable condition for antibacterial treatment, the animals died in about the same period as did those with unwashed loops, that is, in shorter time than in any other region of the intestine—a peculiar result, indeed, if bacteria were playing an important role

To defend the rather disappointing results, Dragstedt and his co-workers suggested that in this high region of the intestine the secretion greatly overbalanced the absorption This reasoning would fit splendidly to the results in experiments on a lower part of the intestine when all the animals died from rupture of the intestine, but it certainly does not explain the results in experiments on the duodenum when only half of the animals show a rupture at death

Lower down in the intestine by washing the loops with ether, life was prolonged not by interference with bacteria, but by delaying overdistention and consequent rupture Here all fatalities were caused by rupture of the intestine The washing of loops with ether delayed overdistention, by damaging the secreting cells of the mucosa, inhibiting, or at least interfering with, cell function Hence there was less secretion and delayed rupture and death

In some of the animals, undoubtedly, the cells were permanently destroyed Consequently no overdistention took place, and the animal lived indefinitely

Dragstedt and his co-workers state that bacterial activity plus necrotic tissue, or the absorption of toxic products resulting from the action of putrefactive bacteria on necrotic tissue, is the important factor in these deaths This, however, I decidedly dispute

Dragstedt asserted that necrosis of mucosa favored absorption In these loops, not only the mucosa but also the entire intestinal wall was necrotic or threatened to become so As necrosis is a direct result of complete stasis how could stoppage of circulation possibly favor absorption? In our drained loops, there was absolutely no necrosis, in fact, the intestine was per-

1 Ellis J W Cause of Death in High Intestinal Obstruction Ann Surg 75 429 (April) 1922 abstr J A M A 78 1665 (May 27) 1922

2 Dragstedt C A Cannon P R and Dragstedt, L R Intestinal Obstruction Study of Influence of Bacterial Flora on Toxemia of Acute Obstruction J Infect Dis 27 139 (Aug) 1920

feebly normal macroscopically and microscopically, still the same rapid deaths occurred

Some years ago I performed the necropsy on an infant, aged 3 days, that died from a complete stenosis in the lower duodenum. Except for this anomaly, the examination was entirely negative. The structure of the duodenum was normal. There was no sign of necrosis and I doubt whether there were any bacteria; at least there was no visible evidence of their activity.

On practically all Dragsted's experiments, an end to end anastomosis was made behind the loop, reestablishing the continuity of the intestine, thus doing away with the condition for which the research was done, namely, intestinal obstruction. If one studies obstruction, one must obviously deal with an actual obstruction. An isolated loop with continuity of the intestine established beyond is not an obstruction. In such a case with an isolated segment, we remove the most important factor, the interference with peristalsis. Without such interference we have no real obstruction, and conclusions drawn from the work cannot but be erroneous.

Drained or undrained duodenal loops give, as we have seen, exactly similar results, but in draining it was possible to make the interesting and important observation that in about twenty-four hours the bile secretion completely stopped and was replaced by a clear mucoid or, at times, a reddish fluid. In every instance the test for bile was negative. The cessation of bile secretion heralded the onset of untoward symptoms, and from that time on the animal rapidly lost ground, and the fatal issue was not long delayed.

The stoppage of bile was of the gravest possible prognostic significance in every one of the thirty-three animals used. In eight of the animals, bile was drained directly from the gallbladder, and in the others it was drained through the duodenum. Stoppage of bile meant death. It is seemingly a pathognomonic prognostic sign in high obstruction.

What did stoppage of bile secretion signify? Would it not be permissible to suspect that with the cessation of bile secretion all the other functions of the liver were suspended simultaneously? It is very unlikely that the liver just ceased the manufacturing of bile and that its other functions continued undisturbed.

The stoppage of bile rather indicated grave intrahepatic disturbances with possibly a complete standstill of the entire liver activity, in other words, a hepatic insufficiency or a condition that might be termed "ahepatism." Then death would be due to hepatic insufficiency. It is not impossible that other unexplainable deaths following upper abdominal operations might be traced to the same source.

In connection with the stoppage of bile and the suspected hepatic insufficiency it is interesting and rather confirmatory of this work to read statements from Dr. W. J. Mayo[3] and Dr. Crile[4].

Crile, in a paper on gallbladder surgery says: "If it is noted that the bile is becoming more scanty in amount and paler in color, the prognosis becomes correspondingly grave." He observed this distinctly in one patient who died.

Mayo says: "I venture to predict that the next few years will bring forth productive research demonstrating that the causes of the changes in vital organs which lead to death do not primarily originate in the nervous system, heart, lungs or kidneys but are the results of a hepatic insufficiency."

What, then, would cause the hepatic insufficiency? Would the tying or sectioning of the intestine cause a reflex inhibition of liver function? No, because anastomosis of the loop into neighboring intestine with gastro-enterostomy saves the animal.

Is a substance (hormone) secreted in this part of the intestine the absorption of which is required to stimulate hepatic activity? No. Resection of this part of the intestine is compatible with life.

Is it the simultaneous loss of bile and pancreatic secretion? No. Resection of the duct-bearing area of the pancreas and the biliary fistula do not cause rapid death.

Is death due to interference with peristalsis? At the root of the whole situation is of course the mechanical obstruction itself. This is one fact we cannot dispute. The obstruction interferes mostly with peristalsis, which is absolutely essential to life, possibly the greater the amount of nonperistaltic intestine, the graver is the danger.

In high obstruction, more intestine is nonperistaltic, therefore the danger is greater. When the entire intestine is nonperistaltic death is not far off, and even in the lowest obstruction death is preceded by aperistalsis.

By the aid of the fluoroscope, peristalsis is seen at first to be very active in the occluded loop. Later peristalsis becomes less marked and stops completely in from ten to twenty hours. This cessation of peristalsis precedes the stoppage of bile, as a rule by several hours. It is very possible that the liver needs this peristalsis as a reflex stimulus for its continued activity. Undoubtedly the entire gastro-intestinal system, with the liver and pancreas is entirely dependent on these muscular waves for continued functions.

Peristalsis below the obstruction seems to stop almost at once. One observes only for some time spastic contractions here and there. Bismuth injected below the obstruction moves very little or, usually, not at all, showing complete aperistalsis.

Injection of the rectum in late cases shows no peristalsis. In fact aperistalsis precedes death in all cases of obstruction.

Proximal to the obstruction we have noticed a to-and-fro peristalsis covering about 4 or 5 cm. and completing its cycle in about three minutes. A real antiperistalsis was never seen.

Seemingly the duration of life after intestinal obstruction bears a direct relation to the amount of intestine rendered nonperistaltic. In low obstruction, for instance, death comes on more slowly because there is only a small amount of intestine made inactive, that is less intestine is nonperistaltic. Death is preceded by stoppage of peristalsis of the rest of the intestine. At first the intestine becomes paretic from overdistention, then paralysis sets in.

If the intestine is drained proximal to the obstruction before paralysis has become complete and the paralyzing distention is prevented, peristalsis is again established and life is saved because a sufficient amount of intestine is again made active. If the drainage is low enough, life may be prolonged indefinitely.

The danger of overdistention is a real one in that it causes paralysis of the peristaltic or active intestine proximal to the obstruction thus rendering the entire

3 Mayo, W. J.: Surgical Significance of Hepatic Incompetency (Murphy Oration in Surgery), Surg. Gynec. & Obst. 33: 463 (Nov.) 1921.

4 Crile, G. W.: Technic of Gall Bladder Surgery in Presence of Jaundice, Surg. Gynec. & Obst. 33: 469 (Nov.) 1921.

intestine nonperistaltic The Mayos especially recognized this, and in all cases in which the intestine had been subjected to marked surgical insult they averted the dangerous acute dilatation of the bowel by prophylactically instituting an outlet for the distending gases

From these observations it seems possible that the liver activity might be dependent on peristaltic waves traveling across the upper bowel, because stoppage of bile is always preceded by cessation of peristalsis If a dog with intestinal obstruction is operated on soon after bile secretion has ceased and the ligatures are loosened, the bile soon reappears, probably with the reestablished peristalsis This we demonstrated in two animals It might be possible that cessation of peristalsis causes inhibition of liver function, and death in high obstruction would then be due to liver insufficiency

CONCLUSIONS

It is doubtful whether death in intestinal obstruction is due to absorption of toxic products from obstructed intestinal contents or from its mucosa

Bacteria do not play any special role in the cause of deaths from obstruction unless rupture takes place, when the bacteria cause peritonitis

In all drained duodenal loops, bile secretion stops before death

It is possible that with the cessation of bile secretions all the other functions of the liver stop simultaneously (liver insufficiency)

Acute dilatation of the active peristaltic intestine proximal to the obstruction is the primary danger in acute obstruction of the intestine

Peristalsis stops before cessation of bile secretion

Death is always preceded by complete aperistalsis

It is possible that the amount of intestine rendered nonperistaltic bears a direct relation to the duration of life after the obstruction

EXPERIMENTAL WORK

Some of the observations recorded were made years ago when Dr James Moorhead and I did extensive research work on the duodenum for Dr S A Matthews at the University of Chicago

The present work was done under the most favorable conditions possible, as it was done in one of the operating rooms at South Shore Hospital with the assistance of interns and nurses

Sixty-five animals were used Twenty-seven animals with obstruction of part of, or entire, duodenum with drain, nine animals with obstruction of part of, or entire, duodenum without drain, eight animals with separate drain in the gallbladder, three animals with obstruction of the duodenum and jejunum with drain, five animals with obstruction of the duodenum and jejunum without drain, three animals with obstruction in the midgut, three animals with obstruction at the ileocecal valve, three dogs injected with mucosa extract and four dogs injected with blood from obstructed dogs

The laboratory examinations, by O Olson, included urinalysis observation of temperature changes, leukocyte count blood sugar determination blood urea determination, carbon dioxid combining power of blood plasma and tissue examinations Roentgenologic examinations included fluoroscopy and radiography

On a series of ten dogs with obstruction of entire duodenum with drain, the foregoing laboratory examinations were made The rectal temperature invariably fell from an average of 102 F before operation to an average of from 96 to 97 F twenty-four hours after obstruction

Urinalysis revealed albuminuria after operation, and an uncertain reduction of Fehling's solution in some cases

Other laboratory findings were a moderate leukocytosis averaging 20 000 after twenty-four hours, in most instances decreased blood sugar varying from 10 to 80 per cent of the original amount, an insignificant reduction in the carbon dioxid combining power of the blood plasma, and an invariable increase in blood urea

Tissue examinations revealed a normal mucosa in the obstructed loop with drain The liver invariably showed a congestion Other organs were normal

The decrease in blood sugar may be explained in the dysfunction of the liver As the liver is the great reservoir of carbohydrates, its dysfunction resulted in an inability to transform the glycogen into glucose, with a consequent decrease in blood sugar

The increase in blood urea may apparently contradict the theory of hepatic insufficiency It is asserted that in acute yellow atrophy there is an increased ammonia content and a decreased urea content in the blood The increase of ammonia is considered to be due to accumulation, as the liver is not able to convert it to urea

Recent investigation has shown however, that the liver is not the only organ concerned in the production of urea as a nitrogenous end product, many other tissues of the body are able to perform this function Is it not reasonable to suppose, therefore that an increased ammonia formation would be taken care of by these tissues in the absence of liver function, with a consequent increased blood urea content?

In a case of acute yellow atrophy, which diagnosis was confirmed by postmortem findings, repeated blood examinations were made and a progressively increasing blood urea was observed the percentage increase corresponding very favorably with our figures

6725 Constance Avenue

ABSTRACT OF DISCUSSION

DR BARNEY BROOKS St Louis Dr Werelius is familiar with the literature, and is therefore familiar with the fact that some of the conclusions he reached are in absolute contradiction to some which I published a number of years ago I will not take time in discussing points he made with which I am in entire accord but will call attention to a few facts which I do not believe are in strict accord with one of the conclusions which he has reached An experimental animal will die from intestinal obstruction, whether the loop be high whether the loop be low whether it be isolated from the intestinal tract so is not to interfere with the normal continuity of the intestinal tract or whether the normal continuity is interfered with There accumulates within the lumen a toxic substance which can be isolated and which injected into a normal dog, causes death This toxic substance cannot be recovered from the normal intestine It is possible to produce an experimental obstruction in such a manner that the animal may live for a month and the loop of obstructed bowel may contain many hundred times the lethal dose necessary to kill this animal, without that animal showing symptoms If, however, this loop of obstructed intestine has its mucosa damaged, the animal succumbs rapidly I feel therefore that we are forced to conclude that after intestinal obstruction symptoms and death are due to an intoxication But the thing I want to call your attention to particularly is that in order to have an animal show symptoms, the toxin must not only be produced but must be absorbed I regard Dr Werelius observations as an important contribution to the study of intestinal obstruction because he has brought forward the first evidence of any demonstrable explanation of how this toxin affects the body Dr Werelius has brought forward very suggestive evidence that death in intestinal obstruction is accompanied by hepatic insufficiency, and he asks the question Is death due to hepatic insufficiency? and answers "Yes" I would go one step farther and say, Is the hepatic insufficiency due to an intoxication? and I would answer, 'Yes" All experimental work which has been done on intestinal obstruction teaches that the most important thing in the handling of a case of intestinal obstruction is early diagnosis and early surgical treatment When the lethal dose has been produced within the intestine and

has been absorbed into the circulation, there is at present no known method of saving life The toxin has already been introduced into the circulation It has already combined with the liver cell and produced an hepatic insufficiency

DR JAMES J MOORHEAD, Terre Haute, Ind I have long been engaged in a study of acute intestinal obstruction in the experimental animal So far as we were able to determine from a large number of experiments, bacterial activity, plus necrotic tissue or the absorption of toxic products resulting from the action of putrefactive bacteria on necrotic tissue is the important factor in the rapid death in simple closed intestinal loops An attempt to immunize the experimental animal against the poison contained in such loops proved futile It is well known that the functions of the liver are seriously disturbed by experiments such as those mentioned by Dr Werelius Some work now going on will probably give us more light on this important topic

DR THOMAS G ORR Kansas City Mo Drs Whipple, Brooks Stone and others have created quite a discussion in the last few years in regard to the cause of death and the toxic element in intestinal obstruction I have recently become interested in this subject by the study of three cases The first two were not cases of true intestinal obstructions but gastro enterostomies The other case was a straight case of intestinal obstruction The gastro enterostomies had very pronounced reactions, with rise in temperature, rapid pulse, dry tongue and everything that goes with that sort of condition Dr R L Haden made blood and urine studies in these cases Blood and urine chemistry disclosed that, instead of there being an acidosis, there was an alkalosis He further found that these patients had retention of chlorids, very much like that found in pneumonia He found, in addition, that they had a marked increase in the non-protein nitrogen The significance of the chlorid retention we are not able to determine at present Whipple of course thinks that the toxic substance in intestinal obstruction comes from a protein of some nature Whipple also thinks that there is a change in the kidney which prevents the elimination of chlorids We believe that the chlorids are retained in the tissues, as in pneumonia In these gastro-enterostomy cases there must have been a partial obstruction to the duodenum The symptoms lasted only a short time, and both patients recovered and did well after a few days I think there was some mechanical interference at the stoma, which produced symptoms very much like those of intestinal obstruction This may give some idea of the nature of the trouble that sometimes occurs in the convalescence after gastro enterostomy A few patients have reactions and others go on and have no more trouble than with the interval removal of an appendix I believe it quite probable that some very valuable therapeutic points may be found in the study of the blood chemistry of these cases That is, of course, one of our chief interests I should not be surprised if the liver is very markedly affected in these obstruction cases when there is such a toxic element absorbed as we know exists in the duodenum I should be surprised if all the parenchymatous organs were not involved very materially by this general intoxication

DR. AXEL WERELIUS, Chicago Dr Brooks makes a good objection He says that in draining the loop one cannot get all the toxin That is possible, as only a small amount may be required to kill the animal However, if that should be so let us trace the poison further In order to be absorbed, it must pass through the mucosa, and only a small amount is needed An extract of mucosa of the entire loop must surely contain enough of the toxin The intravenous injection of such an extract, however in normal dogs caused no disturbance whatsoever This surely speaks strongly against absorption from the lumen Furthermore, so far no one has ever isolated any toxic substance in the blood in intestinal obstruction in man or in animal Dr Moorhead says that gangrene of the mucosa favors absorption In these occluded loops not only mucosa but also entire bowel wall is necrotic As necrosis is a direct result of complete stasis, how could stoppage of circulation possibly favor absorption, and further, in drained loops in which animals die exactly the same, there is absolutely no pathologic change of the duodenum Consequently, gangrene of mucosa means nothing, one way or the other

RELATION OF ANESTHETIC TO PULMONARY ABSCESS FOLLOWING NOSE AND THROAT SURGERY*

C N CHIPMAN, M D
WASHINGTON, D C

During the last few years, there has been so much discussion about pulmonary abscess following nose and throat surgery, especially tonsillectomy, that many surgeons believe lung abscess to be the most important and dangerous complication that may occur It is my firm conviction that the rate of lung abscess per thousand nose and throat operations is no greater than it was twenty years ago In considering any complications following nose and throat surgery today, we must not loose sight of the fact that tonsillectomy, in proportion to the total number of operations for all conditions, is far more frequent than ever before In some hospitals doing general surgery, about 30 per cent of the total number of operations each year are for nose and throat conditions

An examination of thousands of cases in which anesthetics are given in nose and throat surgery, especially tonsillectomy, reveals that nose and throat operations are performed not only by the nose and throat specialist but also by the general surgeon and by the general physician who makes no claim of any specialty Therefore, we should expect to have more complications

Only during the last few years has it been admitted that an abscess may and does occur in the lung as readily as in any other part of the body Richardson[1] as late as 1912, reported the first lung abscess following tonsillectomy Osler reported lobar pneumonia as a complication Abscess of the lung occurred clinically in seventy-six among 12,030 cases (0 63 per cent), and at necropsy, it was found in twenty-eight of 1,294 cases (2 1 per cent), a frequency which can by no means be ignored, showing that only about 25 per cent of the abscesses were recognized before necropsy During the recent influenza epidemic, lung abscess was a frequent complication During the last four months two lung abscesses have been reported to me, one following an operation for intestinal obstruction, the other following an operation for chronic appendicitis

Dr Harry Wessler, associate roentgenologist to Mount Sinai Hospital, New York, in 1920 reported twenty-eight cases of lung abscess and gangrene, eight of which followed tonsillectomy

Following a nose and throat operation, with such symptoms as pain in the lung, cough, chills, irregular temperature and foul sputum, the diagnosis of lung abscess should be easy, in fact, it is hard to see how any one can consider any other diagnosis If there is any doubt about the condition, the roentgen ray and fluoroscopic examination will clearly reveal the abscess

CASES REPORTED

Eleven surgeons, whom I interviewed, have treated twenty-four lung abscesses Twenty followed tonsillectomy, two followed submucous resection of the septum, and two followed frontal sinus operation Tewksbury has had a total of thirty-five cases Ten cases were untreated (that is, artificial pneumothorax

* Read before the Section on Miscellaneous Topics at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

1 Richardson C W Washington M Ann May 1912

was not produced), six patients died, three recovered, and one was lost track of, so that the results could not be reported Among twenty-five patients in whom Tewksbury compressed the lung, twenty were cured, one improved, and four died Twenty-one lesions were in the right lung near the hilum, four were in the left lung near the hilum Tewksbury informs me that in producing artificial pneumothorax, he now *obtains much better results by injecting a smaller volume* of gas at each sitting than he first used

Kendlemen[2] reports two cases Lewis[3] states that he has had seven clinical cases Thomas Klein reports one case Fisher and Cohen[4] reported seventy-three cases last year, five of the patients were admitted to their services after operation had been performed elsewhere The other case reports had been compiled by Bossin, nineteen cases, Manges, ten cases, Frank, eighteen cases, Tewksbury fifteen cases, Dodd, two cases, J W Williams, one, and Clendenning, one Porter reports two cases of lung abscess following local anesthesia

The total number of cases reported above is 145, but twenty-one cases have been reported both by Tewksbury and the operator, so that this leaves a net total of 124 patients having pulmonary abscess following nose and throat operations In thirty-three cases the right lung was involved twenty-seven times, and the left lung six times The right lung is involved much more frequently than the left because the right lung is larger, and because the right bronchus is larger and straighter than the left, so that the entrance for the infected material in the right lung is more direct and easier than in the left lung

My paper had been completed when Moore[5] published an analysis of 202 cases of pulmonary abscess following operative work about the upper respiratory passages I refer to his analysis because the conclusions are very similar to mine He reports the anesthetic used as ether, 151 *times local, thirty-nine times*, and gas, eight times When patients were treated in the upright position, ether was used twenty-nine times and local anesthesia, thirty-nine times In about 70 per cent of the cases, the right lung contained the abscess Suction was not used in ninety-three cases, this, to me, seems inexcusable I infer from his reports that no one is attempting to sterilize the mouth, pharynx and tonsils Now that the ice is broken with a report of thirty-nine cases under local anesthesia, we may expect treatment to be more impartial and intelligent Allowing for duplications, we have about 300 cases in the two reports

DANGER OF LOCAL ANESTHESIA

Local anesthesia per se, especially when cocain is used is more likely than nitrous oxid-oxygen or ether anesthesia to cause the sudden death of the patient during the operation The committee on the advantages and disadvantages of the various local anesthetics,[6] composed of Mayer Skillern and Sonnenschein, report twenty immediate deaths from local anesthesia, two from nose operations, and eighteen from throat operations Such a large number of deaths from local anesthesia, for what many consider minor operations, cannot be lightly passed

French[7] reports that a girl, aged 12 years, met death in forty seconds from a hypodermic injection of 12 drops of a 4 per cent solution of cocain

Gibson[8] reports a case of poisoning occurring after two applications of a 2 per cent solution of cocain to the throat and tonsils Last summer a New York daily *newspaper continued the news item* "Mrs H, a young woman 28 years of age, died on the operating table during an operation for removal of the tonsils under local anesthesia from uremic convulsions" The probable cause of the convulsions and death in the foregoing case was cocain poisoning

A large number of sudden deaths have been reported from injection of cocain solution in the urethra to pass sounds or cut a stricture, and death even has resulted from a few drops of 5 per cent solution of cocain, dropped in the eye for some minor operation

With these facts undisputed, many still assert that local anesthesia is safer than ether or nitrous oxid-oxygen anesthesia The literature nowhere contains any such number of sudden deaths from ether or nitrous-oxygen anesthesia, during nose and throat operations A live patient with lung complications following ether anesthesia is better than a dead patient following cocain anesthesia

TYPE OF ETHER ANESTHESIA TO BE USED

It is admitted by those advocating local anesthesia that ether anesthesia per se does not cause pulmonary abscess, also it is well known that lung complications occur most frequently when ether anesthesia is used In explanation, there are a number of conditions to be considered The first is deep ether anesthesia In nose and throat surgery, only light ether anesthesia is required, and yet one frequently sees the patient profoundly narcotized with the pupils widely dilated Such a condition makes it easy for blood and infected material to be carried into the lungs, especially the right lung, by inspiration When the reflexes are completely abolished, there is nothing to prevent fluids from entering the larynx and lungs, and nothing to warn one that they are doing so With the reflexes not abolished, when fluid enters the larynx, the patient will attempt to expel it In other words, why do we cough when not anesthetized? Because there is something in the bronchi which we wish to expel We know that if a body is removed from the water shortly after drowning the lungs will not contain water, on the contrary, if the body is placed in the water after death, the lungs will contain water, because there were no reflexes to protect them

Another condition that invites aspiration under deep anesthesia is having the head level with the body or elevated, so that there is nothing to prevent blood and mucus from entering the larynx During a tonsil operation when the patient is wearing a tracheotomy tube, if the head is not lowered and blood is allowed to collect in the pharynx, some of the blood will be expelled through the tracheotomy tube

CONDITIONS THAT MAY CAUSE LUNG ABSCESS

Those methods of operating that unduly tear and crush the tonsils, thus filling the pharynx with caseous material, and not infrequently liquid pus, aid in producing lung abscess Also, it is admitted by all that the

2 Kendlemen W H J Iowa State M Soc June 1920 p 168
3 Lewis Dean J Iowa State M Soc June 1920 p 170
4 Fisher Lewis and Cohen A J Pulmonary Abscess in Adults Following Tonsillectomy Under General Anesthesia J A M A 77 1513 (Oct 22) 1921
5 Moore W F Pulmonary Abscess J A M A 78 1279 (April 29) 1922
6 Mayer Emil Skillern R H and Sonnenschein Robert Anesthesia in Nose and Throat Work J A M A 75 315 (July 31) 1920
7 French J M Am J Clin Med June 1908
8 Gibson A G Lancet Feb 26 1910

mouth and pharynx comprise one of the most extensively infected fields for an operation, and yet but few make any attempt to cleanse and sterilize the teeth and tonsil region There was an epidemic of lung abscess following the recent influenza epidemic There were more lung abscesses during 1919 than during several years preceding the influenza epidemic At that time, the hemolytic streptococcus was the prevailing organism found in the tonsils Nichols and Bryan[9] recovered hemolytic streptococci from the crypts of 75 per cent of 100 pairs of extirpated tonsils

Cajigas,[10] in 1919, found hemolytic streptococci present before operation in 170 out of 200 cases, or in the tonsils of 85 per cent of the patients examined Many observers have found hemolytic streptococci present in normal throats in from 4 to 30 per cent of patients examined It is possible that, if more attention were given to streptococci infection of the tonsils, the result would be a smaller number of lung abscesses

ORIGIN OF LUNG ABSCESS

Is lung abscess due to aspiration or embolism? It is an undisputed fact that many lung abscesses, both in operative and nonoperative conditions of various parts of the body are of embolic origin It would be very convenient if we could feel as sure as Fisher and Cohen that lung abscess following nose and throat surgery is of embolic origin, for then it would make little difference if local or any one of the various forms of general anesthesia should be used It is difficult to see how the cause can frequently be other than aspiration, when we consider that, out of thirty-three cases, the right lung was involved near the hilum twenty-seven times Embolic abscess is most frequently found near the edges, rather than the center of the lung When all facts are taken into consideration, we must conclude that lung abscess is caused both by aspiration and by the infective embolus, carried to the lung by the blood stream or lymphatic system

It has been my aim in this brief paper not to try to disprove the occurrence of lung abscess, but rather to present evidence that lung abscess does occur, and far too frequently For this condition, the anesthetist, the surgeon and the methods of procedure used, rather than the anesthetic, are to blame

HOW TO PREVENT LUNG ABSCESS

1 A patient should not be operated on within seven days after an attack of tonsillitis, or when there is acute bronchitis or a fever from any cause

2 The patient should be in the hospital at least six hours, or better, twenty-four hours before operation

3 The mouth and teeth should be thoroughly cleansed, before the operation, with some antiseptic solution

4 Only light anesthesia should be used

5 The head should always be down, and by suction the pharynx kept free from infective material

6 The tonsils and pharynx should be painted before operation with 50 per cent tincture of iodin, also the cavity should be swabbed with iodin after removal of tonsils

7 Bleeding should be stopped at once by suture or ligature rather than prolonged sponging thus reducing the anesthesia and obtaining a dry pharynx

8 In all nose and sinus operations, a posterior nasal plug should be used

9 The patient should be returned to his room on his side, with the head down

10 After operation, the foot of the bed should be elevated until the patient has fully reacted, unless the patient has high blood pressure

11 Last, but not least, nose and throat operations should receive the same care and skill by both the surgeon and the anesthetist as are given to an abdominal operation, and there will be fewer lung abscesses to report

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ABSTRACT OF DISCUSSION

DR A H MILLER Providence, R I The most common cause of lung abscess in general is pneumonia, and lung abscess frequently follows postoperative bronchitis or pneumonia For these reasons we cannot consider postoperative lung abscess separately from other pulmonary complications In the pulmonary complications occurring in the lower lobes and following operations on the upper part of the abdomen the infection may be carried through the lymphatics In multiple postoperative complications the condition may be embolic But in the majority of the cases we believe that the pulmonary complications are of inspiratory origin, and as a result of inspiration of infectious material either bronchitis, pneumonia or abscess may develop We find these complications following every type of anesthetic and any class of operation There are conditions which favor the occurrence of these complications One surgeon reports a series of lung abscesses during a limited period while other surgeons will have no such cases In searching for the cause of these conditions we are concerned with the depth of anesthesia the position of the patient, the preparation for the operation and the use of suction There is a difference of opinion as to the value of suction in throat surgery I note that as time goes on surgeons use the suction apparatus less and less The reason is that with the improvements in operative technic they need it less and less A factor of the greatest importance is the depth of the anesthesia With profound anesthesia protective reflexes are abolished and the respiratory passages are laid open for the entrance of infectious material With a light depth of anesthesia, postoperative pulmonary complications very rarely occur Another important factor is the manipulation of the jaw I believe that many pulmonary complications have been due to the practice of pulling the jaw forward when the patient attempted to vomit Drawing the jaw and the tongue forward opens the respiratory passages for the entrance of foreign material I believe that these two factors, profound anesthesia, and manipulation of the jaw are responsible for most of the postoperative lung complications

DR R S ADAMS San Antonio Texas I am sure that after having heard these two papers, and Dr Miller's discussion, we can all be assured that the term anesthetic or ether pneumonia will soon be a thing of the past Chilling of the body surface is one of the most important factors in this connection The average patient is accustomed to heavy sleeping garments He is given a thin nightshirt that does not cover the upper part of the chest, and is repeatedly exposed for preoperative preparation, examinations etc He is then transported through a drafty elevator shaft or chilly hall to the operating room and if in addition he is placed on an operating table that is not kept warm and cold, moist packs are allowed to remain in the abdomen and an excess of mucus accumulates we can readily see why 2 per cent of all patients operated on develop these complications Henle in 1901 made an exhaustive report on the lung complications following 1 786 abdominal operations Local anesthesia was used extensively and he noted an increased morbidity but lessened mortality In patients suffering from asthma chronic bronchitis or emphysema or in those in whom infection was coexistent the morbidity and mortality were increased Animals were anesthetized with ether and soaked with cool water the control animals were anesthetized and

9 Nichols H J and Bryan J H The Tonsils as Foci of Infection in Streptococcus Hemolyticus Carriers J A M A 71 1813 (Nov 16) 1918

10 Cajigas, Thomas Bull George Washington Univ October, 1920

placed on vacuum pillows The lungs of the chilled animals showed a general hyperemia, swelling and desquamation of the alveolar epithelium, and when sputum containing the pneumococcus was placed in the trachea, those chilled all developed pneumonia, while the reverse as to lung findings and pneumonia was found in the control series Even at this early date, Henle mentioned the possibility of emboli from the operative field traversing the lymphatics and veins to the lungs Whipple thinks that the aspiration into the bronchioles of mucus which had become laden with germs from the mouth and tonsils was the most frequent cause of postoperative pneumonia, and considered the Type IV pneumococcus the usual offending organism Whipple emphasized the value of the roentgen ray in arriving at an early diagnosis of lung complication The work of Cutler and Hunt and more recently of Cutler, elaborating on the embolic theory of pneumonia, is attractive I should be inclined to believe that those cases of pneumonia coming on within forty-eight hours after the operation were usually of the aspiration type, while those occurring later could more properly be classed as embolic Lemon, in reporting on eighty-one cases of lung abscess, found that seventeen were postoperative and of these seventeen, twelve followed operations on the nose and throat I believe, with Dr Chipman, that the method of anesthesia is of prime importance in tonsil surgery, as advantage should be taken of the electric motor vapor and suction apparatus, thus permitting of a light, even plane of anesthesia, most of the mucus and blood being removed, thus minimizing the dangers of aspiration When the face mask is reapplied several times in nose and throat surgery, an uneven plane of anesthesia ensues, causing greater danger of aspiration I hope that the time is not far distant when every one connected with the operation will realize that the anesthetic and method of anesthesia comprise only one of many factors bearing on postoperative pneumonia and lung abscess

DR FRANCES E HAINES, Chicago I agree with practically everything that has been said I have never seen pulmonary abscess or pneumonia following nose and throat surgery The Chicago men whom I have consulted never had a pulmonary abscess They all use the ether vaporizing and suction machine sometimes in clinic cases, but not much in private cases because they operate rapidly They all agree that pulmonary abscess is due usually to inspiration of septic or foreign material, in practically all cases, therefore, it is due to carelessness The semirecumbent position is never used by these men dorsal position for general anesthesia, and sitting erect for local anesthesia Dr Shambaugh has an assistant turn the patient on the side immediately at the close of the operation Drs Pierce and Theobold emphasize that anesthesia should never be too deep or too light A light anesthesia should be employed Our ether patients are so lightly under the anesthetic that they attempt to crawl off the cart when returning to the room The outlook is hopeful, since the vast majority of cases are due to aspiration If the surgeon and anesthetist will watch and protect the larynx, pulmonary abscesses will result only rarely

DR EDWIN MCGINNIS, Chicago Cocain anesthesia is dangerous unless care is used Dr Chipman mentioned 2, 5 and 10 per cent solutions I use 20 per cent and sometimes the flake cocain I am in the habit of telling students that the weaker solution is the more dangerous in that the surgeon using a weaker solution of cocain thinks he is safe and does not take into consideration how much solution he uses The thing that does the anesthetic work is the cocain itself I had one unfortunate death from local anesthesia, and we never determined whether we injected the cocain or whether some complication caused death I do not use the suction apparatus in tonsillectomy I use the original Sluder tonsillotomes On one I had a catch put so that I could run it down and set it in any position I desired We very often have acute tonsillitis following nasal operations If I have a patient needing a tonsillectomy and a nose operation, the tonsillectomy is done first Dr Herb saw an experimental animal in which we had produced an acute pneumonia and acute nephritis The staphylococcus from skin infection or osteomyelitis will produce abscesses in the internal organs The cervical adenitis cases that break down, the few that we have been able to follow up bacteriologically, have been infections with *Streptococcus hemolyticus* From the work that we have done, it does not seem possible that a lung abscess could follow an operation on the nose unless we get a tonsillitis with the invasion of *Streptococcus hemolyticus* I also do bronchoscopic work It has always been our experience that in almost all the foreign body cases in which the object was not removed within a month or six weeks following the accident we got some purulent conditions in the lung in the region of the foreign body In the early days the foreign body cases were not diagnosed Often they were present in the lung six or eight years All of those patients had a lung abscess A woman had a tonsillectomy done in Indiana recently She warned the anesthetist that she had a pivot tooth On awaking her tooth was gone They decided that the tooth had been swept up and thrown out with the refuse Six weeks later she developed a cough and rales in the right side of her chest She went through various government hospitals, and finally it was decided to send her to Arizona for pulmonary tuberculosis Some one suggested that the roentgen ray be used They found the pivot tooth in the right bronchus She had an abscess cavity 2 inches in diameter, and the tooth was at the bottom of it Efforts to remove it failed During the night she had an attack of coughing, and the tooth came up with a large amount of mucus She made an uneventful recovery

DR LOGAN CLENDENING Kansas City, Mo This is the most important problem that the anesthetist has today I see on an average one case a week following nose and throat operations The anesthetist or the nose and throat man does not always know that his patient has developed a pulmonary abscess The symptoms develop as late as two weeks afterward The anesthetist or laryngologist hears that the patient has left the hospital, but has developed "a cold" or has influenza," and is under the care of a general practitioner, but not until two or three weeks later is the case definitely recognized as a lung abscess I am very much interested in the embolic or inspiratory origin of these things There is no question that there are embolic abscesses I have seen patients with abscesses of the cervical lymph glands develop a double femoral phlebitis, abscesses in both lungs and finally die We found at necropsy multiple abscesses in the lung pericarditis double pleural empyema and double femoral thrombophlebitis Embolic abscesses are usually of that kind They are multiple The ordinary abscess that follows tonsillectomy is of a different character It is usually single, in the lower lobe of the right lung I have had one experience which seems to me to demonstrate the fact that the origin is inspiratory We had a patient who on the second day after tonsillectomy had a temperature of 100 F and on the third day, 102 F with a patch of rales in the back The next day the temperature was normal The patient had coughed up in the night a clot about the size and shape of a small secondary bronchus She had inspired that septic blood, it had clotted in her bronchus, and in a short time would have infected it I believe that the origin of lung abscesses following throat operations is inspiratory in most cases It is the safest view to take, rather than to comfort oneself with the doctrine of an embolic origin As to prevention, all our efforts should go toward preventing those conditions which favor the inspiration of septic material I am not committed to the doctrine of accusing your favorite motor driven anesthesia apparatus, though I am still unconvinced that those machines are entirely innocent I believe that the depth of anesthesia is a most important factor, also the position of the patient, and all those other things that may have to do with the inspiration of septic material If we work on the basis of that doctrine we shall arrive at the nearest approximation to success in the prevention of these abscesses

DR E I MCKESSON Toledo, Ohio There can be no doubt that there is an embolic origin of pulmonary complica-

tions That there is the aspiratory cause of complications is also certain I want to call attention to one point In the administration of cocain or local anesthetics in tonsil work I believe most of the cases are injected We are constantly being surprised by the discovery of abscesses around the tonsil The introduction of the needle through this abscess, unintentionally, and then injecting the contents of the contaminated eye of the needle directly into the blood stream, is a possible cause of embolic abscesses

DR C N CHIPMAN, Washington, D C There is one thing that I cannot emphasize too strongly, that is the early diagnosis and treatment of these cases Tewksbury, to whom I referred, and who limits his work to the lungs has found that if these cases are obtained early and the lungs are compressed, from 80 to 90 per cent will be cured It is really appalling to see the number of men who make no attempt to cleanse or sterilize the mouth Patients come to the operating room with their teeth and mouth filthy We can at least have the teeth and mouth cleansed, and paint the tonsils and peritonsillar region with tincture of iodin before the operation and swab out the cavities with the same solution after the tonsils are removed I feel that if more attention is given to sterilization of the mouth we shall have fewer cases of lung abscess

SUPRARENAL GLAND IN ANESTHESIA*

J F CORBETT, M D
MINNEAPOLIS

It has been a common observation that certain patients do badly under ether anesthesia Especially is this true in cases of typhoid, in starvation in severe infections of all kinds, in late intestinal obstruction, in patients suffering from shock, and in persons who have either acute or chronic secondary anemia due to hemorrhage In addition, one hesitates to use ether in cases of exophthalmic goiter On the other hand, with nitrous oxid one can operate with comparative safety, and I believe that nitrous oxid has an advantage in my hands at least, over local infiltration Therefore I have attempted to analyze the underlying principles on which these statements have their foundation First of all these agents, nitrous oxid seems to do least harm Why it does least harm it is the purpose of this paper to explain from data collected for the purpose

From the list of diseases I have enumerated it would seem that, if something could be found in all of these conditions to be common, and if this something was also a result of prolonged etherization, a satisfactory explanation could be reached A research that I undertook at the University of Minnesota shows that there is one thing at least common to all of the conditions mentioned above This one thing is epinephrin exhaustion We have varying degrees of epinephrin loss in shock in hemorrhage, in typhoid, in fright, in starvation in infection and in prolonged etherization

Epinephrin exhaustion of the suprarenal glands comes alone through explosive output of epinephrin These explosive outpourings of epinephrin are clinically evident in certain forms of exophthalmic goiter although I do not possess absolute data as to the epinephrin content of the suprarenal glands in this condition Vasomotor balance is maintained ordinarily by minute amounts of epinephrin normally in the blood Intense vasoconstriction may be brought about by increased amounts of epinephrin in the blood stream

In hemorrhage, there is a relation between blood pressure, blood volume and vasoconstriction For example, I had a patient whose systolic blood pressure was 120, diastolic pressure, 70, hemoglobin, 45, and pulse rate, 140 This patient was in no apparent danger She was intensely white She was white because she had an intense vasoconstriction This patient was putting out large quantities of epinephrin to maintain the vasoconstriction The volume of blood was very small, but rapid pulse and vasoconstriction compensated for the circulation Had we allowed the patient to progress, even though no more bleeding occurred, she in all probability would have collapsed without apparent cause, when the epinephrin was exhausted and vasoconstriction failed Blood transfusion was performed, and the patient operated on under gas anesthesia At the conclusion of the transfusion the hemoglobin was 60 and the patient had received only 380 c c of blood, the systolic blood pressure was 120 and the diastolic blood pressure, 80 It is apparent that the blood volume was small At the end of twenty-four hours the systolic blood pressure was 100, diastolic 55 hemoglobin 44, but the face was more ruddy and vasoconstriction was less active I have repeatedly seen collapse in patients who after some time were not bleeding, but who had bled and maintained a balance until vasoconstriction failed In other words epinephrin exhaustion had occurred Those patients having compensation do not die until the compensating agent has been exhausted

No one seems to know what shock actually is The work of Malcomson and of Seelig and Lyon shows that a general vasoconstriction and reduction of blood volume occur Yandell Henderson tells us that shock is due to the escape of fluids through the vessel walls, and that these fluids are lost as in hemorrhage In shock, the circulation is compensated for just so long as vasoconstriction is maintained, and in some measure in proportion to that function When vasoconstriction does not compensate fall of blood pressure and, at length collapse occur Epinephrin maintains the vasoconstriction and more than the usual output is needed The residual reserve of epinephrin in the suprarenal glands is finally used up in traumatic shock, and when it is, death occurs

In a study of experimental and clinical shock, I was so impressed by the similarity in the pictures presented by victims of shock and animals from whom the suprarenal glands had been removed that I decided to make a study of the suprarenal gland With this purpose, I performed 350 animal experiments I made a study of the residual epinephrin in the suprarenal gland in animals subjected to various procedures or dying from various causes The epinephrin determinations were done according to the method of Elliot that is by means of physiologic standardization This method, when carefully controlled with standard epinephrin, is reliable As a result I found epinephrin to be exhausted in the list of cases in the accompanying table From these data one might be led to infer that etherization and not trauma, was responsible for the low epinephrin content of the glands in this series However I had the opportunity to examine the suprarenal glands from subjects of shock who had never been etherized In three such cases there was low epinephrin content, but not complete exhaustion I do not believe that epinephrin exhaustion is shock, but I believe that, when there is an exhaustion of that element, there is nothing with which shock can be con-

* Read before the Section on Miscellaneous Topics at the Seventy-Third Annual Session of the American Medical Association St Louis May 1922

trolled unless we increase blood volume by transfusion, and obviate the necessity of intense vasoconstriction This fact was further emphasized by the extreme epinephrin exhaustion following nerve stimulation Shock does not manifest itself after long continued nerve stimulation in animals having a low epinephrin content However, such animals go into shock almost immediately after the abdomen is opened with slight trauma That is, there is nothing left to combat shock

I further found that etherization alone greatly exhausted the suprarenal glands This was in some measure controlled by morphin, but not absolutely Nitrous oxid did not to so great a degree in itself cause epinephrin exhaustion I believe that the use of nitrous oxid is safe not in that it protects the nervous system from trauma, but in that it does not per se exhaust the suprarenal glands, and in that it removes the element of fright Nitrous oxid improperly given, and especially when not safeguarded by morphin and atropin, does exhause the suprarenal glands It is of interest here to state that we often got a blood pressure tracing similar to that obtained on vagus stimulation, when no atropin was used These experiments showed epinephrin exhaustion Scopolamin-morphin anesthesia also exhausts the glands

Fright is one of the greatest agents we have in epinephrin exhaustion I believe that it is for this reason that depletion of the epinephrin content in the suprarenal glands occurred in our animals with local anesthesia, in spite of the fact that all animals operated on were handled as gently and diplomatically as we would handle a patient in the hospital Most patients can go through local anesthesia operation without pain They may smile, but it has been my observation that after operation the facies changes The change in appearance suggests shock Further than this, I have seen shock follow operation with local anesthesia This usually develops some time after operation and, as Harris says, "the patient flattens out" I do not believe that ether is quite as dangerous as we are told For instance, I have performed about 200 operations on the injured arms and legs of soldiers These are long, tedious operations requiring from two to five and one half hours The work was done under ether In the service, there were no deaths, and in only one instance was there approach to a mild shock These persons were in good health except for the deformity, and had a good epinephrin content Had the epinephrin content of the same persons been depleted by some of the agents mentioned above, they would not have stood the ether so well

EPINEPHRIN CONTENT OF SUPPARENAL GLANDS

Condition	Epinephrin Content Per Cent
Normal instant death by magnesium sulphate	100 00
Infection, postmortem	0 03
Typhoid	0 03
Jaundice obstructive in vivo	0 80
Peptone*	0 15
Anaphylaxis*	0 36
Intestinal obstruction postmortem	0 07
Intestinal obstruction in vivo*	0 33
Rabies	0 01
Diphtheria	0 02
Pneumonia	0 17
Hemorrhage	0 26
Sciatic stimulation	0 10
Thyroidectomized cat*	0 55
Peritoneal trauma ether	0 09
Peritoneal trauma morphin	0 25
Brain trauma	0 25
Cutting cord sympathetic nerves stimulated*	0 70
Peritoneal trauma death visceral nerves stimulated*	0 25
Suffocation	0 28
Chloroform immediate death	0 76
Chloroform one hour	0 35
Chloroform four hours	0 28
Ether deaths primary anesthetic	0 06
Ether one hour	0 33
Ether four hours	0 24
Ether morphin four hours	0 40
Ether morphin fifteen minutes	0 60
Ether morphin operative trauma four hours	0 34
Ether morphin quinin urea urethra blocking four hours operation	0 35
Nitrous oxid four hours	0 65
Nitrous oxid vagus stimulation four hours	0 10
Nitrous oxid scopolamin morphin four hours	0 40
Local procain quinin and urea	0 27
Local procain quinin and urea morphin	0 70
Alcohol chloroform four hours*	0 18
Fright	0 13
Morphin ether operation five hours recovery in four hours content after twenty four hours	0 29
Morphin ether operation five hours recovery in four hours content after forty eight hours	0 40
Ether operation trauma recovery in four hours content after twenty four hours	0 26
Starvation (Elliot)	0 50

The figures in the table express the percentage of epinephrin obtained from the suprarenal glands of animals subjected to procedures as indicated The content of normal glands obtained from animals instantly killed with magnesium sulphate was taken as 100 per cent Each figure represents, in all but seven instances, ten or more experiments A star indicates the cases in which less than ten experiments were done

I am submitting a table for study and analysis I cannot detail all of the combinations and conclusions one might make, but should prefer to leave it with the reader for study and deduction It gives a physical explanation for many things we know to be true from clinical observation

ABSTRACT OF DISCUSSION

DR NETTIE KLEIN, Texarkana, Texas Dr Corbett did not give any one cause as producing shock, and while the causes will gradually increase in number we are still in the experimental stage as to the epinephrin content of the suprarenals under anesthesia and in shock The interrelation of the endocrines is so close that it is hardly possible to have a pathologic condition arising in one gland without some disturbance in the other gland Whenever an animal survived a longer time necropsy often disclosed hypertrophy of the accessory glands Compensating hypertrophy explains the variability of the time of survival in some cases when animals are subjected to partial or complete removal of the suprarenals In the diseases that Dr Corbett mentioned, we see the patients when they are in an extremely toxic state The endocrine system is depleted and the polyglandular picture is more evident than just simply the exhaustion of the suprarenals alone

DR ANSEL M CAINE New Orleans My knowledge is limited entirely to clinical experience One would think, after reading this paper and seeing the results as shown on the charts, that administering epinephrin chlorid in shock would, to a large extent give a patient a chance to recover There is a lot of truth in that If we administer saline solution or glucose to which from 10 to 15 minims of epinephrin chlorid has been added the patient will recover enough so that proctoclysis can be used and supply the necessary fluids, if the shock is due to loss of blood, or the patient can recover entirely on his reserve power Crile has shown that when he administered 1 50 000 epinephrin at the rate of 3 cc a minute over a long period of time, it did a great deal of good The blood pressure was maintained very well for a time, but it did not hold out But, as Dr Klein said, you cannot expect that the loss of epinephrin would be the only cause of shock and I am sure that Dr Corbett does not believe that it is the only cause of these constant symptoms, but by knowing the action of these internal secretions we can do good For that reason we always use epinephrin chlorid

DR J F CORBETT, Minneapolis I do not contend that shock is simply an exhaustion of the suprarenal There is, however abundant evidence to show that residual epinephrin is necessary to overcome shock The results of experiments

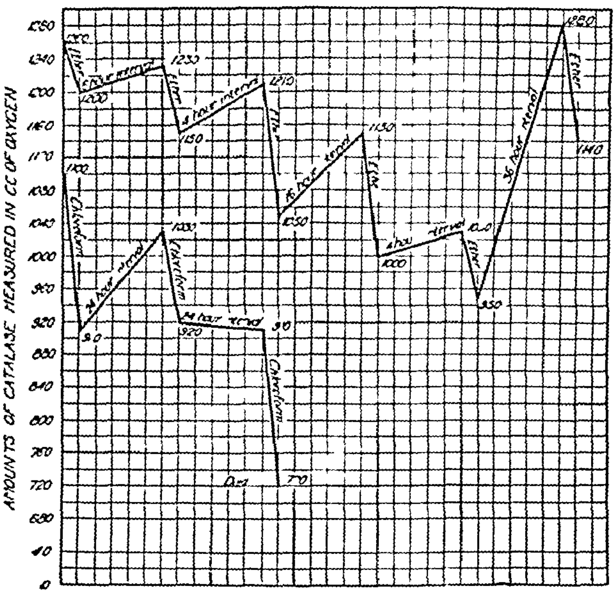
on animals by various investigators have been conflicting When we stop to consider that the question of accessory chromaffin glands has not been taken into consideration by many of these investigators, we have an explanation for the contradictory opinion I do not believe that epinephrin should be administered artificially in shock except for the purpose of tiding over temporarily some grave crisis The purpose of the discussion is to emphasize the conservation of epinephrin

EFFECT OF REPEATED ADMINISTRATION OF ANESTHETICS ON BLOOD CATALASE *

W E BURGE, Ph D
URBANA, ILL.

We had already found that anesthetics produce a decrease in catalase, an enzyme possessing the property of liberating oxygen from hydrogen peroxid, and accordingly suggested that this decrease in catalase with resulting diminution in oxidation might be responsible for anesthesia It was also found that a strong anesthetic such as chloroform, produced a much greater decrease in catalase than a weaker anesthetic, such as ether and that a rapidly acting anesthetic, such as nitrous oxid, decreased catalase more rapidly than a more slowly acting one

The object of the present investigation was to determine the effect of repeated administrations of anesthetics on the blood catalase The animals used were rabbits, and the anesthetics chloroform and ether Catalase determinations were made by adding 1 c c of the rabbit's blood, diluted 1 3 with 0 9 per cent sodium chlorid, to neutral hydrogen peroxid and the amount of oxygen liberated in ten minutes was taken as a measure of the catalase content of the blood Determinations were made immediately before and after fifteen minutes of anesthesia



Decrease in blood catalase brought about by fifteen minute intervals of ether and chloroform anesthesia with subsequent increase in catalase during the intervals between anesthesia

In all, twenty-four rabbits were used, twelve for chloroform and twelve for ether The results of two experiments, which are fairly typical, are given in the accompanying chart

It may be seen that the effect of the repeated administration of ether and chloroform was to lower the catalase content more and more after each successive administration, chloroform being more effective in this respect than ether No rabbit survived more than three fifteen-minute periods of chloroform anesthesia, whereas nine of the twelve rabbits survived the five periods of ether anesthesia, and are in good condition at present

* From the physiologic laboratory University of Illinois
* Read before the Section on Miscellaneous Topics at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

ABSTRACT OF DISCUSSION

Dr Morris H Clark, Kansas City, Mo The dictionary says that catalase is an enzyme which decomposes hydrogen peroxid returning to its original state at the end of the process That left me in the dark as much as ever Then I saw the *Journal of Biology* and the first sentence I came to was very helpful It said "Considering the tremendous amount of work that was done on this subject, it is very discouraging that we have learned nothing" I found one statement that caught my attention because I found it in several places that "catalase in the presence of hydrogen peroxid will liberate oxygen molecules" It does not make a bit of difference whether the oxygen or the amount of catalase in the blood is due to the number of red blood cells or catalase in the blood What we want to know is how much oxygen is liberated by the peroxid when blood is added If we find that less oxygen will be liberated in certain conditions, such as infections we can measure the severity of the infection by the amount of oxygen liberated If we find that anesthesia reduces the amount of catalase in the blood we know that we are getting some detrimental effect from the anesthetic These experiments are helping us to obtain something, and sometime we shall put them all together and evolve a definite theory that will be of absolute value

Dr F H McMechan, Avon Lake, Ohio In Burge's work we have evidence that caffein and theobromin, for all practical purposes, preserve the catalase functions of the liver during anesthesia In view of the fact that caffein and theobromin are such important drugs also, conserving kidney functions as well as catalase secretion would it not be very useful to have a series of experiments made, to determine the amount of caffein and theobromin which could be given to the normal or the serious risk patient coming to operation in order before operation was attempted at all to supply that patient with a reversible amount of these drugs to counteract any effect of the anesthetic which would have to be given during the course of the operative procedure? What I mean to say is this Is it a practical possibility to give the patient previous to operation and anesthesia such an amount of caffein as will not invalidate the anesthesia, but which irrespective of the anesthetic used or the duration of the anesthetic period will leave the patient in the same physiologic condition as though the anesthetic had not been administered because the caffein had taken care of the oxidative processes of the body in a physiologic way, during the surgical procedure?

Primitive Medicine and Religious Beliefs—If we are to understand the attitude of the primitive mind toward the diagnosis and treatment of disease we must recognize that medicine in our sense was only one phase of a set of magic or mystic processes designed to promote human well-being, such as averting the wrath of angered gods or evil spirits, fire-making making rain purifying streams or habitations, fertilizing soil improving sexual potency or fecundity, preventing or removing blight of crops and epidemic diseases and that these powers, originally united in one person, were he god hero king, sorcerer priest, prophet, or physician formed the savage's generic concept of 'making medicine'" —F H Garrison, History of Medicine '

UTERINE HEMORRHAGE OF BENIGN ORIGIN TREATED BY IRRADIATION

AN ANALYSIS OF FIVE HUNDRED AND TWENTY-SEVEN CASES OF MYOMA UTERI AND MYOPATHIC LESIONS *

JOHN G. CLARK, M.D.
AND
FLOYD E. KEENE, M.D.
PHILADELPHIA

We now have available for statistical study 527 cases of myomas and other benign lesions causing uterine hemorrhages which have been treated by irradiation in the gynecologic department of the university hospital. In various publications, we have defined from time to time the indications for and contraindications to this treatment, and we have carefully followed a set of rules which clinical experience has taught us are essential safeguards. The patient who falls into the hands of a radiologist who is not a surgeon, or the surgeon who does not employ this valuable remedy as part of his armamentarium, is indeed riding on perilous waters, for neither irradiation nor surgery can be employed exclusively if the best interests of the patient are to be served. Radium in the treatment of uterine hemorrhage of benign origin is chiefly applicable to patients in the fourth and fifth decades of life, but with proper precautions and in carefully selected cases, it may be employed successfully in younger women.

To bring this issue out more clearly, we shall discuss this treatment from the standpoint of age, and we have classified these patients as follows: adolescent girls and young women up to the age of 20, young women from 20 to 35, middle aged women from 35 to 45, and those entering the climacteric years.

ADOLESCENT GIRLS AND YOUNG WOMEN

Occasionally, without definable cause, young girls either menstruate excessively, the flow at times amounting to a more or less persistent metrorrhagia, which in many instances may not interfere greatly with health, but, on the other hand, may finally reduce the patient to a severe degree of anemia. Quite naturally, this condition may be a simple functional derangement incident to the inauguration of the menses, or it may be due to some more or less obscure cause, which is difficult to ascribe to a demonstrable patholgic lesion. Such cases usually tend to self-correction under appropriate hygienic and medical treatment, therefore we studiously avoid any direct gynecologic intervention until the patient's health is manifestly deteriorating. Since the cooperation between the ovarian impulse and menstrual function is so interdependent, our inclination has been to ascribe these irregularities to some deviation of ovarian function, since a curettage so seldom proves more than temporarily effective. But one should be most wary in using radium in adolescent patients on the very threshhold of young womanhood, because in sufficient dosage it will just as surely stop menstruation for all time as will double ovariotomy.

In no field therefore, should this agent be used with such precautions and to this end we hold the initial irradiation at a very small dosage with the possibility of only partial relief or even failure, with a view to a second irradiation, rather than resort at once to a more prolonged exposure with its dangers. In these young persons, after an examination under anesthesia for the purpose of accurately defining the pelvic conditions, we may with safety apply 50 mg. for from three to four hours. This usually proves effective in regulating the periods, but we never reach any conclusion as to its failure to cure under six months, for we fear the effects of a too early repetition of the treatment. Should the second irradiation be necessary, the first having been partially or wholly ineffective, we then increase the time from four to six hours, depending to some extent on the size of the uterus and the severity of the bleeding. In our experience, the second application is always effective.

Fortunately, these cases are of infrequent occurrence, hence, the very small number in our list. Precisely the same contraindication must influence one here as in all other cases, namely, in the presence of any inflammatory involvement of the tubes, irradiation is very postively contraindicated. Occasionally, a small cyst, or tuberculosis of the endometrium may be the hemorrhagic genesis. It is especially important, therefore, to exclude every possible cause for the metrorrhagia that might contraindicate the use of radium. In our series of 527 cases, there have been only five treated between the ages of 11 and 20 years. All of these patients except one were cured by the first treatment. One girl of 11 had 50 mg. applied for three hours, two, aged 15 had eight and five hour applications, respectively, two, aged 17, five and eight hours, respectively. One of these who was subjected to an eight-hour application suffered with flushes for one year—too perilously close to a menopause for comfort.

YOUNG WOMEN

In the cases of women, aged from 20 to 35, myomatous changes in the uterus begin to show their incidence in an increasing ratio, very few appearing between 20 and 25, but from then on gradually becoming more frequent. In women of this age, two controlling motives in life should be kept in the foreview (1) her maternal possibilities, and (2) the sexual life. While radium is most effective in inhibiting the growth and ultimately diminishing the size of the tumor during these ages, it is also equally powerful in inducing a premature menopause. Therefore, the patient should be studied from the standpoint of a myomectomy if possible, as this operation is unquestionably to be preferred, and should this not be feasible, we are as a rule, favorably inclined to a subtotal hysterectomy, with the preservation of the ovaries. In the first instance, the sexual and maternal physiology are not interfered with but rather promoted, while in the second, menstruation may continue and the sexual life is in no way disturbed.

With this disposal of myomas occurring in young women, it will be noted that surgical intervention takes decided precedence over that of irradiation, leaving relatively few cases open to the latter treatment. As a result of our experience, we usually restrict the dosage of radium to 50 mg. for from six to twelve hours in these younger women. In such instances, the menstrual periods may recur more or less normally after a variable period of amenorrhea. Seventy-seven patients falling within these ages were subjected to irradiation. The age distribution was as follows: from 20 to 25, eleven, from 25 to 30, eighteen, from 30 to 35, forty-eight.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

MIDDLE AGED WOMEN

In the group of women aged from 35 to 45 the question of the maternal possibilities as well as the sexual life of the person becomes of much less importance in the choice of treatment. Usually the maternal equation is either settled by the patient having a family, or the myomatous changes in the uterus have so distorted its structure as to render the patient sterile, or have made childbearing impossible. Further, the cessation of the ovarian function in women who have established sexual habits is of far less moment in its influence on this function, for the libido sexualis is now largely dependent on the psychic side of the individual rather than on the centers in the lower spinal cord, which are of capital influence in the inauguration of the sexual instincts.

If either of these phases stand out prominently in the patient's mind and she fears the abrogation of either, we incline toward surgical intervention. The ultimate happiness of the patient must have equal consideration with the restoration of physical health, for the latter without the former may have little merit in the mind of a patient suffering under a cloud of such misgiving. In such cases, a follow-up letter does not bring a very cheerful or grateful response, even though the patient's life may actually have been saved.

However, in considering the use of radium we find that this question has largely been settled by the fact that the patient has passed the fortieth year. At this period, therefore, the preference, in case of doubt, always falls in favor of radium, whereas, in the younger women, surgery is almost invariably the remedy chosen.

WOMEN IN THE CLIMACTERIC YEARS

In the group of cases formed by women in the climacteric years, radium occupies a premier position, it is effective, it is quick in giving relief, the treatment does not incapacitate the patient, it is safe, and it is followed by practically no immediate disabling sequelae or remote ill effects, as our summary will show. With our experience as a guide, we have ceased to summarize what may happen from three to five years after irradiation, for, without exception thus far, we have nothing to record in the way of so-called continuing or remote changes which may be counted as a backfire from the treatment.

This statement is now well grounded on the careful study of cases running back six years. The fear of sarcomatous transformation of the tumor is without foundation, for in not one single instance has this malignant change been noted after irradiation in this large series. Hence, any criticism of radium treatment on this false assumption is without support. The cure in these cases is prompt, and the only after-effects are those noted in all women passing through the menopause. Many pass through this trying period with scarcely a complaint, others are troubled constantly, while a few have a very stormy and occasionally, a prolonged period of adjustment. At times, we have thought that possibly a menopause induced by irradiation is more violent than in other series of cases in which the climacterium is surgically induced, but when a large series of patients who have undergone double ovariotomy is compared with those who have been submitted to irradiation, the two are found to be similar.

In a review by Norris and Clark of two comparative series of myomatous and of pelvic inflammatory cases, in which the ovaries were preserved or removed, Norris, after a very close scrutiny of the results according to the age incidence, brought out a rather startling and revolutionary point which is fully substantiated in this study. In a large group of young women who have undergone double ovariotomy, there will unquestionably be a greater percentage who suffer acutely from climacteric disturbances, but it is strikingly evident that, in an equal number of patients either within or actually beyond the normal menopausal years, there will also be a considerable percentage in which these disturbances are quite as stormy and equally prolonged.

The temperamental and the nervous stability of these women has an infinitely greater bearing on this critical epoch than the mere question of age. For this reason, we study much more attentively than formerly the nervous status of the patient, when this decision as to the artificial induction of the menopause is under consideration. This is particularly to be taken into full account in young women, whereas, those who are within the menopausal years may be treated as the pathologic status indicates. This observation of Norris we especially emphasize, for it is of capital importance and must be carefully heeded if the best postoperative results are to be achieved.

SUMMARY OF RESULTS IN FIVE HUNDRED AND TWENTY-SEVEN CASES

The total number of cases of benign hemorrhage of the uterus occurring in myoma uteri and myopathic lesions is 527. Of this number, there are available for statistical study 476 cases which have been fully treated. Of the remaining fifty-one, some have not been heard from and others have been too recently treated for conclusive study.

After irradiation it is common for one or two and rarely three menstrual periods to occur before the actual onset of the permanent amenorrhea. To some extent the time of the application of radium relative to the menstrual epoch influences the succeeding periods. If radium is applied shortly before the expected period, it is not likely in any way to influence the succeeding period, to the contrary, it may actually be more profuse, but, we may assume that within from four to six weeks at most the structural changes induced by the irradiation will have progressed sufficiently to stop the menstrual flow entirely.

In 476 cases which required only one treatment, permanent amenorrhea occurred promptly, or, after a short interval of temporary amenorrhea, there was a return to normal flow, when the dosage had been intentionally light with this end in view. Of 433 cases, forty either required a second application of radium, or an operation was necessitated on account of a persistent flow. The actual percentage in which the bleeding was controlled by the first application of radium in 476 cases was 91 per cent. In this entire number, only one death occurred, and this was of obscure origin. The patient was very stout, and within twenty-four hours after a plastic operation on the vagina, accompanied with a simple dilation and curettage, and an intra-uterine application of 50 mg. of radium, she developed severe pains in the epigastric region, which soon defined itself as a general peritonitis, from which she died.

A necropsy was not permitted in this case, and we are at a loss to know how to account for the fatality, particularly as the initial symptoms began in the upper abdomen and not in the region of operation. We are

inclined to think that there was a second lesion in the upper abdomen, and the ultimate catastrophe may have resulted from the perforation of an ulcer or possibly from some accident incident to a gallbladder or pancreatic lesion

RECURRENCE OF BLEEDING AFTER IRRADIATION

In forty-seven cases, bleeding recurred after the application of radium, in twenty-seven, several months after the treatment. The remainder were noted as follows: one year subsequently, nine cases; from one to one and one-half years, two cases; from one and one-half to two years, three cases; from two to three years, six cases. Of these forty-seven, the recurrence was slight, or the periods returned to normal and did not require subsequent treatment, in twenty-three cases.

LEUKORRHEA

Frequently, after an intra-uterine application of radium, a thick yellowish leukorrhea develops, which is slight in amount and is seldom if ever persistent, rarely lasting more than from six to ten weeks. Frequently, it is so insignificant that unless the patient's attention is called to it, she does not refer to it. Further along this line, there is a gratifying sequel in that a persistent leukorrhea is not infrequently cured by the treatment. We, therefore, lay little or no stress on the presence of leukorrhea as a sequel, because it is evanescent in character, and requires little or no attention.

MENOPAUSE

Irradiation in a dosage of 50 mg., for twelve to twenty-four hours, will produce climacteric symptoms of varying degrees of intensity in 60 per cent of cases. In 36 per cent., the symptoms will be marked or severe. As a rule, they persist for from a few months to two or three years, and then subside. In an occasional case, severe symptoms may persist for several years. Menopausal symptoms seldom if ever occur in young women when a dosage of 50 mg. is applied for from six to eight hours, and in no case has the climacterium been induced by this dosage. Larger doses will produce these symptoms, but our impression is that they are usually neither so persistent nor so severe in younger women as those of menopausal years. Strangely, this observation is at variance with the usual conception of the menopause, but it is in line with the statement of Clark and Norris in their analysis of cases after a complete hysterectomy.

From this study, we also draw the conclusion that the age factor in its relationship to the menopause is not nearly so much to be taken into account as the temperamental and nervous factors. Thus, a highly strung woman with poor nervous governors is very likely to be thrown markedly out of balance by the precipitation of the menopause, be it early or late. This point we would especially emphasize.

PREGNANCY

As the vast majority of these patients were subjected to irradiation after childbearing possibilities had ceased either through age limitation or because of the distortion of the uterus incident to pathologic changes, the consideration of pregnancy has but little bearing as a deciding factor in the choice of treatment. As we have already indicated in the preceding pages, our inclination is to perform an operation in the younger women rather than to use radium.

In our total number of cases in which radium has been used, there have been five women who subsequently became pregnant. In one, a woman, aged 29, suffering with persistent menorrhagia of a myopathic character, in whom a three hour application of 85 mg. of radium was employed, the menses returned to normal after three preceding curettages had failed to effect this regulation. Two years after marriage, a full term healthy child was born. The second patient, aged 31, had suffered from excessive menorrhagia for ten years, induced by a myomatous tumor the size of a small orange. Subsequent to the irradiation with 50 mg. for twenty-four hours, she passed through a definite menopausal cycle. The periods then came back to normal for a short time and pregnancy occurred. She passed through a normal pregnancy up to full term, but succumbed to a postpartum hemorrhage, following the birth of the baby by accouchement force. In a third patient, pregnancy occurred two years after an application of 50 mg. for twenty-four hours, but resulted in a miscarriage. In a fourth, a normal delivery occurred after three years in a patient who had been submitted to an application of 50 mg. of radium for six hours. In a fifth patient, who had twice received applications of 25 mg. of radium for twenty-four hours, three pregnancies occurred. All of these children were born prematurely and were either dead at delivery or died subsequently.

From this summary of results it is very plainly evident that the application of radium gives but little forecast in favor of restoring the childbearing possibilities, for, of these seven pregnancies only two children came to full maturity. This study, therefore, emphasizes the statement already laid down that when pregnancy is still in contemplation by the patient, an operation should be advised, instead of irradiation.

LATE RESULTS OF IRRADIATION

The criticism offered to the use of radium has been that the final results of irradiation are not yet known. We believe that this skeptical forecast may be set at rest when we find in our large list of cases that, in at least 300 of them that have been followed from three to six years, thus far no single instance has come to our attention in which there was any remote deleterious result which could in any way be traced to radium.

In one instance, a patient who was operated on in another clinic after irradiation by us was found to have a carcinoma of the fundus. Previous to the treatment by us, a curettage had been done by a competent gynecologist and a negative report as to malignancy had been returned from his laboratory. The bleeding recurred after the curettage, and the patient then came under our care. The second curettage brought away insufficient debris for a pathologic examination. The hemorrhages had been absolutely periodic in character, the uterus was slightly enlarged, and there were no grounds on which to base a diagnosis of malignancy, all the evidence being in favor of a benign source of hemorrhage. Irradiation in this case caused a cessation of hemorrhage for several months, when it again recurred, and, at an operation in another hospital, an extensive carcinoma of the fundus was found. Whether there was an oversight at the time of the irradiation, or whether the carcinoma originated subsequently, is open to question. Admitting the probabilities that the carcinoma was overlooked at the time of irradiation, this was but one single instance in 527 cases of such an oversight, and, as we review our 96 per cent of permanent cures, we do not feel that this is a very serious indictment against irradiation, partic-

ularly as this error did not preclude the subsequent hysterectomy

FAILURE TO CONTROL BY ONE IRRADIATION

A reapplication was necessary for the relief of a continuation or a recurrence of the abnormal bleeding in twenty-eight cases In all of these, the condition was cured by a second application, except in two, which required operation The types of cases requiring a second treatment were myomas, eight cases, myopathic hemorrhage, five cases, endometritis two cases, bleeding from cervical stump, one case, pelvic inflammatory disease, one case, not stated, one case

Of this list, an error was committed in reapplying radium in the pelvic inflammatory case, notwithstanding the fact that the bleeding was controlled and the patient was relieved of the symptoms, for inflammatory cases should not be submitted to irradiation Further, it may be said of the twenty-eight patients that thirteen were subjected to 50 mg of radium from six to twelve hours In other words, in this list there were several young women in whom the light application of radium was made with the probability of having to resort to a second treatment

CASES REQUIRING OPERATION AFTER IRRADIATION

Of the 527 patients, a total of eighteen were operated on subsequent to irradiation Fourteen of these were myomatous cases in which the bleeding persisted or recurred more or less profusely following a variable period of amenorrhea Four patients were subsequently operated on for chronic pelvic inflammatory disease and one for hemorrhage It is gratifying to note that in this long list of cases only 3 per cent of the patients required operation after irradiation certainly a very small percentage in a series of cases of so many varied conditions

In the fourteen patients requiring a subsequent operation, ten of the operations were for myomas of the larger submucous type, three for myopathic hemorrhage, and one, in which there was recurrent bleeding from a cervical stump after a hysterectomy, for an adenomyoma

MORTALITY

In the entire series there was but one death which occurred from peritonitis a few days after an extensive plastic operation and an application of 50 mg of radium for twenty-four hours The postoperative symptoms were those of an acute upper abdominal lesion Necropsy was not performed

COMPLICATIONS OF IRRADIATION

Phlebitis occurred in two cases, in one a mere recurrent symptom of an old phlebitis In the second, bilateral phlebitis followed on a repair of the cervix, a posterior colporrhaphy and irradiation Eight patients developed symptoms of more or less severe neuritis, which is not an infrequent occurrence in women at the menopause, regardless of any antedating treatment or operation

TECHNIC

The technic of application is very simple Under nitrous oxid and oxygen anesthesia, a careful pelvic examination is made The size of the uterus is ascertained, and its depth is measured by a sound and recorded for future reference A thorough curettage is performed, and the curettings are saved for microscopic diagnosis A 50 mg tube of radium properly filtered is inserted to the fundus of the uterus The duration of application depends largely on the age of the patient, in women at or near the menopause, the duration is usually twenty-four hours, and in young women proportionally less A repetition of the application in young women is preferable to overirradiation

A point which we always emphasize in the use of radium in all cases of benign hemorrhage is that one intra-uterine application of 50 mg for twenty-four hours suffices to cure the case effectively We, therefore, strongly deprecate the repetition of these treatments, since each application carries a minimum danger with it, and has no merit whatever over one application which effectively cures Also, we do not favor coincident roentgen-ray treatments, for they are quite unnecessary

The immediate results of irradiation are not unlike those of a simple curettage, with the exception that nausea is likely to be more persistent during the retention of the radium within the uterus In all of this list, we have had no case of vomiting so persistent or prolonged as to give the slightest cause for anxiety Usually within one or two hours at most after the withdrawal of the radium, the nausea and vomiting cease In a few instances, these symptoms have persisted for three days As a rule, these patients remain in the hospital five days, for we follow the rule here that we observe in any case of simple curettage It is unwise to permit the patient to go home the second day after irradiation, since the surgeon must see the patient through any possible danger arising from his surgical intervention, and such dangers are not past within twenty-four hours As a rule, the patient sits up the third day and leaves the hospital the fifth day

The standing rule is for all of these patients to return for examination at the end of from six weeks to two months after the treatment If the patient lives at a distance and cannot return, a personal letter as to her condition is requested of the patient or of the attending physician From our study of these final results, we feel that a three-year period suffices for a complete observation By no means do all tumors disappear, and a few do not diminish greatly in size, but as the majority of these cases have been treated solely for hemorrhages, with the cessation of this symptom the patient may be looked on as cured After irradiation, the great majority of tumors either shrink greatly in size or disappear completely A subperitoneal tumor is not likely to be greatly influenced by irradiation

CASES IN WHICH OPERATION WAS PERFORMED AFTER INEFFECTUAL IRRADIATION

CASE 1.—*Myoma* One hundred milligrams of radium was applied for twenty four hours Operation was performed two months later There was no relief of hemorrhage A large tumor was found

CASE 2.—*Myoma large* Fifty milligrams of radium was applied for twenty four hours There was no effect on bleeding

CASE 3.—*Adenomyoma of cervical stump* Fifty milligrams of radium was applied for twelve hours There was no relief of hemorrhage

CASE 4.—*Myoma* Fifty milligrams of radium was applied for twelve hours The periods recurred in normal amount a few months after irradiation

CASE 5.—*Myoma large* Fifty milligrams of radium was applied for twenty four hours Two applications were made with an interval of ten months Bleeding was not controlled

CASE 6.—*Myoma* Fifty milligrams of radium was applied for eight hours Bleeding continued

CASE 7—*Myoma* Fifty milligrams of radium was applied for twelve hours Operation was performed two months later, as bleeding was not controlled

CASE 8—*Myopathic lesions* Fifty milligrams of radium was applied for twenty-four hours Operation was performed eight months later for recurrence of bleeding

CASE 9—*Myopathic lesions* Twenty-five milligrams of radium was applied for six hours Operation was performed two years later for recurrence of bleeding

CASE 10—*Myoma* Fifty milligrams of radium was applied for twelve hours Operation was necessary for recurrence of bleeding

CASE 11—*Myopathic lesions* Fifty milligrams of radium was applied for four hours There was persistent bleeding

CASE 12—*Myoma, large* Fifty milligrams of radium was applied for twenty-four hours There were two treatments, with an interval of nine months After the second treatment there was amenorrhea for two years, then a recurrence of bleeding

CASE 13—*Myoma* Fifty milligrams of radium was applied for twenty-four hours The tumor was large There was recurrence of bleeding after nine months, requiring operation

CASE 14—Fifty milligrams of radium was applied for fourteen hours Radium had no effect on bleeding Operation was performed six months later

CASES IN WHICH OPERATION WAS PERFORMED FOR SUBSEQUENT PELVIC INFLAMMATORY DISEASE

CASE 15—Operation was performed six weeks after irradiation This was a case of chronic pelvic inflammatory lesion, lighted up by irradiation

CASE 16—The patient was well for three years following irradiation, and then developed symptoms of acute pelvic infection of streptococcus type

CASE 17—Operation was performed one and one-half years after radium treatment for extensive pelvic inflammation

CASE 18—Radium was applied in this case which had been diagnosed as pelvic inflammatory disease at the time of the first treatment This was a cardinal error, for this treatment is not suited to pelvic inflammatory lesions

Having been among the first to adopt this plan of treatment following the pioneer work of Drs Abbe and Kelly, we have endeavored to thread our way cautiously, expanding the field of application only as our experience pointed the way, and we now feel that we are on a solid therapeutic foundation Following are clinical rules which have been evolved from our observations of this large series of cases

CONTRAINDICATIONS

1 Tumors larger than the size of a four months pregnant uterus, or those complicated by inflammatory lesions or neoplasms of the adnexa, should not be submitted to irradiation Hysterectomy offers quicker relief for the first, and surgical intervention is imperatively indicated in the second class In exceptional cases, large tumors have been successfully irradiated in the face of some grave contraindications to the major operation, and in others this treatment has been employed to check hemorrhage in seriously anemic patients, thus permitting a sufficient recuperation to insure a safer operation

2 In tumors causing pressure symptoms, the shrinkage of the tumor is too slow after irradiation, therefore, hysterectomy is to be preferred

3 When, in tumors, there is cachexia out of proportion to the blood loss, this may be due to a necrosis of the tumor, which may be hastened by the irradiation We have observed such instances The recovery of the patient is very prompt and most satisfactory after hysterectomy, and it is, therefore, preferable

4 The larger submucous tumors, and those so distorting the cervical canal and fundal cavity as to render the introduction of the radium capsule difficult or impossible, are not suitable for irradiation A pyometrium may follow the application of radium in such cases This sequel has followed in two instances

5 Tumors rapidly increasing in size or those which have undergone calcareous changes are not adapted to irradiation

6 Myomas in young women fall, as a rule, within the surgical domain, as a myomectomy or partial hysterectomy with preservation of the ovarian function, is decidedly preferable

7 In patients suffering with an associated intra-abdominal lesion, such as a cholelithiasis, appendicitis or gastric lesions of surgical consequence, it is injudicious to employ radium In such instances, an exploratory incision should be made, thus giving a comprehensive diagnostic insight The abdominal lesion may require first attention, but this does not preclude an irradiation at the same sitting, if the myoma or myopathic cause of the hemorrhage falls within the class to which this treatment is applicable Under this comprehensive plan, the treatment is fully subservient to the surgeon's judgment

INDICATIONS FOR IRRADIATION

From a study of the foregoing contraindications to irradiation, it appears at first glance that the field for its application must be a narrow one, and yet such is not the case In 1921, 210 patients falling within these two domains were admitted to the gynecologic service of the university hospital Of these, 110 were submitted to irradiation and 100 to surgical intervention Both classes of cases, under this careful segregation, yielded first class results Those undergoing an operation ran greater risks and were longer in the hospital, and the return to efficiency was much slower But the ultimate outcome was entirely satisfactory, since these patients belonged without question to the surgical field

We would commit a serious error were we to consider this splendid and most effective plan of treatment as a competitor of surgery The two go hand in hand, and both must be supervised by the surgeon and not by the roentgen-ray expert or the roentgenologist, for each in a varying degree is a surgical measure As to the indications for this treatment, we may briefly summarize it in one sentence "Irradiation is the treatment of choice for the smaller myomas in women approaching or within the menopausal years whose only symptom is hemorrhage"

2017 Walnut Street—Medical Arts Building

ABSTRACT OF DISCUSSION

DR HENRY SCHMITZ, Chicago In my work I observe the same indications as given by Dr Clark In every case of bleeding uterus to be treated with radium I insist on a diagnostic curettage The ratio between the cases treated with radium and those subjected to surgery is as 1 3 In other words, 25 per cent of so called benign uterine hemorrhages are treated with radium, and the other 75 per cent by surgery Therefore, the treatment of benign uterine hemorrhages belongs to the surgeon and should, under no circumstances, be undertaken by a radiologist unless the latter cooperates with the surgeon We have treated 142 cases up to date One patient died from septic peritonitis The patient was *the*

list of five patients being treated on this particular morning with radium for benign and malignant hemorrhages The same surgeon did the work in the same operating room The diagnostic curettage was negative The bimanual findings were normal We observed a case of carcinoma of the uterus in spite of careful diagnostic curettage and histologic diagnosis It was a cervical carcinoma Hemorrhage recurred six months after the treatment At this time the cancer had invaded the parametria Whether the carcinoma was present at the time of the insertion of the radium it is impossible to state as the microscopic report was negative It is fair to assume, however that the patient was suffering with cancer Another patient returned two years later with an advanced fundus carcinoma though the diagnostic curettage was microscopically reported as a hypertrophy Two sarcomatous degenerations were detected very soon after the treatment and were removed, so the patient did not suffer from procrastination We also saw four cases of degeneration fibroids three simple fatty degenerations and one red degeneration I have mentioned these observations not to discourage the use of radium in cases of benign hemorrhage but to bring out the point that it is extremely important to make a very careful diagnostic curettage and if we are in doubt to resort to surgery rather than procrastinate by the use of radium

DR F C LAWRENCE Columbus, Ohio The question seems to be first Shall we treat the symptoms? Shall we be satisfied with a symptomatic cure or relief? In some of the cases of radium and roentgen-ray treatment the results are apparently magical while in others the malignancy seems to be increased in its activity The first thing we should remember is that every neoplasm no matter where is potentially a malignancy Second that fibroma or myoma of the uterus while it develops malignancy is not carcinoma It may be the cause of carcinoma by its continued irritation, and produce in epitheliomatous growth which is carcinomatous With this potential malignancy we should ask ourselves Can we afford—when the operation of supravaginal hysterectomy for removal of the myomatous uterus has a mortality when properly performed of 1 per cent—to deal with this potential malignancy by any type of treatment other than complete removal? Noble and other competent men have shown, and probably Dr Clark has found that there is a potential malignancy in fibroma of from 5 to 8 per cent That is to say from 5 to 8 per cent of the fibromas when removed, have undergone sarcomatous change When we put against this 1 per cent mortality in hysterectomy properly performed can we afford to run from five to eight times the risk of malignancy by attempting to treat with radium or roentgen ray or anything else?

DR JOHN G CLARK Philadelphia Dr Schmidt raises the question as to mortality There was one fatal case among the 527 treated The death occurred from some obscure cause The symptoms were of a fulminating character and occurred in the upper abdomen from apparently some coincident lesion Neither an operation nor a necropsy was permitted, and we have designated this as a fatality from peritonitis induced by the curettage, although the symptoms would really not sustain this interpretation I am indeed, glad that Dr Lawrence has brought into the discussion the perennial question of malignant degeneration in myomas If there was ever a fallacy that should be annihilated this is one The frequency of sarcomatous transformations in myomas is so small as almost to be negligible If as Dr Lawrence would have us believe this peril is so ominous certainly sarcomatous sequels in the cervical stump after a supravaginal hysterectomy should frequently be noted and yet in more than 1 500 such operations we have yet to see such a postoperative incident In our laboratory, in which more than 1 200 uteri have been examined after hysterectomy for myomas, there were only twenty-two sarcomas that were not diagnosed before the specimen was sent to the laboratory The hiatus in pathologic statistics emanating from different laboratories depends on what one pathologist would call sarcoma and what the other would call fibroma It is quite possible to take out of almost any fibroid tumor isolated areas which could very easily be mistaken for spindle cell sarcoma In such instances the whole specimen is of chief diagnostic import not these compact areas I am sure, therefore, that the discrepancy in diagnosis lies in this difference in interpretation We have seen several carcinomas occurring in the cervical stump in which a previous supravaginal hysterectomy has been performed but a control diagnostic curettage had not been made As these cases have passed through our clinic there were 101 cases of adenocarcinoma of the uterus in which the clinical diagnosis was positive in fifty-seven and doubtful malignancy, twenty-four, in the remainder the positive diagnosis was made in the laboratory in cases which otherwise would have been considered of benign type In such instances proper surgical measures were instituted before the patients were discharged from the hospital The ultimate judge, therefore in all of these cases whether one uses radium or operates, is a skilled pathologist All too frequently a good general pathologist goes completely amiss on this point, for he may see in normal cyclic glandular changes in the endometrium such puzzling pictures that he may designate them as adenocarcinoma The main point which I particularly wish to stress is that we should cease to hold over patients the suggestion that a myoma is liable to sarcomatous changes, for such transformations are so small as almost to be negligible and should never be the crucial point on which a radical operation is decided Dr Lawrence admits at least a 2 per cent mortality from surgical intervention Therefore, in this series were they all to have been submitted to hysterectomy, there would have been at least ten deaths under irradiation there has been one

STANDARDIZATION AND PRESERVATION OF COMPLEMENT SERUM FOR WASSERMANN TEST*

E H RUEDIGER M D
BISMARCK, N D

Laboratory workers who are familiar with the Wassermann test know that the serums from different guinea-pigs differ greatly in complement activity, and that under ordinary conditions complement rapidly deteriorates but can be preserved for varying lengths of time under suitable conditions

About two years ago I[1] showed that a number of complement serums from guinea-pigs gave results with the same human serum varying from 2+ to 10+ Even greater differences have been observed since, serums from some guinea-pigs have given negative results while serums from other guinea-pigs gave 10+ with the same human serum Such irregularities can be eliminated by selection of complement serum, probably by selective breeding of guinea-pigs, by selective feeding of guinea-pigs and by preservation of the good complement serums

SELECTION OF SERUM AND GUINEA-PIGS

The preserved positive control serum, composed of a mixture of twenty syphilitic human serums, I diluted to such an extent that it gave approximately 6+ with a fairly good complement serum This diluted positive control serum was then used in titrating the complement serums from the different guinea-pigs At the beginning of this work, about two years ago, the differences in the results were very striking, they varied from negative to 10+, and from no hemolysis to complete hemolysis All guinea-pigs whose serums gave less than 5+ or had poor hemolytic power were rejected and were used for other work or were killed

* From the pathologic laboratory of the Bismarck Evangelical Hospital

1 Ruediger F H Journal Lancet 40 565 (Oct 15) 1920

At the first time I titrated the serums of all guinea-pigs I had I rejected approximately 50 per cent as absolutely unfit for the Wassermann test A selected few those whose serums had good hemolytic power and gave 10 + or more with the positive control, were kept as breeders and the others were kept for the Wassermann test For the Wassermann test each guinea-pig serum is titrated and at least six selected serums are mixed Selective breeding has been carried on for nearly three years, when I started I rejected 50 per cent as worthless, and of approximately 100 guinea-pigs raised last summer under selective breeding I rejected only 5 per cent as worthless, 50 per cent fell into the exceptionally good class

INFLUENCE OF FEED ON COMPLEMENT

In winter, a number of selected guinea-pigs were divided into four groups, called A, B, C and D Group A was fed on raw carrots, raw cabbage, raw lettuce, raw apple peelings, hay, oats and bread Group B received raw carrots, hay, oats and bread, Group C received raw cabbage, hay, oats and bread, while Group D was fed on raw potatoes, hay, oats and bread All received as much water as they wanted After one month of special feeding, the serums of all the guinea-pigs were again titrated, and they were all good A barely perceptible superiority was found in Group A over Groups B, C and D

Last fall the complement serums of a number of grass-fed guinea-pigs gave 8 + with the preserved positive control serum During the winter the fixability gradually rose, reaching about 20 + by spring, and in two weeks on the fresh grass diet the fixability abruptly fell more than 50 per cent The serums of guinea-pigs which gave 8 + last fall and 20 + toward spring now gave only 6 +, while the hemolytic power remained unchanged or nearly unchanged

PRESERVATION OF COMPLEMENT SERUM

Among the methods commonly employed to preserve complement serum, freezing the serum or salting the serum appear to be the most successful In 1919 I reported on a more or less unsuccessful result I had with with frozen complement serum At that time I tried it under unfavorable conditions During the winter months the complement serum was kept outdoors but, as the temperature varied greatly, I had to pack small test tubes with complement serum in salt and ice The serum was usually worthless in three weeks The only explanation I can offer for that rapid deterioration is that salt or brine got into the tubes Salt (crude sodium chlorid) is strongly anticomplementary, hence a small excess renders a complement serum unfit Since that report I kept complement serum at a temperature of below zero Fahrenheit in a cold storage room for which I am indebted to the Northern Produce Company at Bismarck, N D Kept in the cold storage room at a temperature below zero Fahrenheit, complement remained active for from eight to ten weeks Practically no deterioration could be detected in a month

Adding salt to complement also helps to preserve it At ordinary refrigerator temperature I find that it deteriorates in less than two weeks Salted complement kept at approximately 1 C remained active for from four to six weeks, one lot was still good after eight weeks

2 Ruediger E H J Infect Dis 25 269 (Sept) 1919

SUMMARY AND CONCLUSIONS

The serums from different guinea-pigs differ greatly in fixability and in hemolytic power

In order to obtain fairly uniform complement serum, the serums must be selected, the good serums being used and the poor serums rejected

Breeding only guinea-pigs with good complement greatly improved our collection of guinea-pigs for this purpose in three years

Any raw vegetables, such as potatoes, cabbage or carrots, prevent scurvy and are suitable winter feed for complement guinea-pigs A mixture of raw vegetables gives the best results

The fixability of guinea-pig complement was much better in winter than in summer, which may be due to the large quantity of grass fed in summer

Frozen complement serum kept below zero Fahrenheit in the cold storage room remained active for eight weeks

Salted complement serum kept at approximately 1 C remained active for more than four weeks

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PREMATURE INFANTS

MALFORMATIONS AND DISEASES OF THE NERVOUS, OSSEOUS AND MUSCULAR SYSTEMS REQUIRING CORRECTIVE TREATMENT *

JULIUS H HESS M D
CHICAGO

According to the general use of the term we designate as premature all infants who are born before the end of the normal term of pregnancy (forty weeks), but in common usage the term refers only to those infants whose gestation period was 260 days or less There is another class of infants who may be considered in practically the same category as premature infants—the weaklings, infants born at term or nearly at term who have suffered more or less severely during their intra-uterine existence through factors which interfered with their nutrition, and consequently interfered with their development They are classed as congenitally diseased infants

For our purposes, we shall consider the conditions most frequently seen in premature infants which are of especial interest to the surgeon in three groups (1) congenital malformations of the fetus due to intrauterine diseases and deformities, (2) pathologic conditions developing at or shortly after birth, and (3) those developments of nutritional disturbances during the first months of life which result in secondary complications of the osseous, muscular and nervous systems

CONGENITAL MALFORMATIONS DUE TO INTRAUTERINE DISEASES

In the first group, constitutional defects and congenital malformations can be given only the most superficial consideration, because of the large variety and need for individualization in treatment Organic diseases of the central nervous system, with resulting disturbances in growth and deformities, frequently cause premature expulsion of the fetus

Cephalocele.—Early death ensues in anencephaly, while encephalocele and meningocele are often amen-

* Read before the Section on Orthopedic Surgery at the Seventy Third Annual Session of the American Medical Association St Louis May 1922

able to surgical procedure When the deformed structure contains a cavity corresponding to a ventricle, the terms hydro-encephalocele and encephalocystocele are applied The latter deformities incline to a rapid increase in size while those which are not connected with the cerebrospinal canal tend to remain stationary Three principal types of encephalocele are to be distinguished frontal, occipital and basal The frontal types most frequently appear between the frontal bone and the nasal process Rarer forms are noted, such as the naso-orbital and the naso-ethmoidal The occipital is the most common form of cerebral hernia, and is usually seen at the nape of the neck, above or below the external occipital protuberance The basal variety is noted in the nasal or pharyngeal cavity

Spina Bifida—When the embryonic medullary tube fails to close properly, deformities result, corresponding to the nature and location of the opening The open congenital fissure of the spinal column, termed rachischisis, is invariably fatal The closed types, spina bifida cystica are generally situated in the dorsolumbar or lumbosacral regions of the vertebral column and, more rarely in the cervical regions Any of these forms of spina bifida may occur as a myelocele, myelocystocele or meningocele

Treatment in all of these cases of encephalocele and spina bifida is essentially surgical when the infant's development permits of interference The decision as to early or late operation must, of necessity, be dependent on the fetal age of the infant and the gravity of the symptoms Deformities most amenable to operation are those with a small pedicle and limited communication Operation may frequently be delayed through repeated paracentesis, with intermittent indications for operation Hydrocephalus frequently accompanies spina bifida, and is one of the most common complications secondary to operation, even in what appear to be favorable cases

Numerous efforts have been made by different methods for the relief of internal hydrocephalus with, and without, spina bifida Among the methods, drainage in the subdural space, under the scalp, into the jugular veins, and puncture of the corpus callosum have been among the most popular, but these procedures have given little more than temporary relief in the cases which have come under my observation More recently, Dr Alfred Strauss has operated in a series of six cases removing a cylinder of cortex, about three-eighths inch in diameter, from the frontotemporal region The plug of cortex extending into the lateral ventricle was removed with a piece of glass tubing with sharpened edge, after the skull was opened at a lateral angle of the large fontanel and the dura was incised and sutured to the arachnoid In the experimental animals, the defect in the cerebral cortex remained permanent in five out of seven cases, and in some of them, the lumen was found at necropsy to be lined by endothelium, probably from the lateral ventricles Six infants on whom operation was performed are all living, with no visible evidence at this time of disturbances of sensation or muscular power In the cases associated with spina bifida with the exception of one case, the operation for removal of the cerebral cortex was performed eight or ten days previous to the spina bifida operation In one case, the two operations were done at the same sitting The results have been such in these cases as to encourage further development of the procedure described It is to be remembered that little can be expected from major operative procedures before the infant has attained a fetal age and development approximating full term

Other Congenital Abnormalities—Numerous other congenital abnormalities of the skeleton are seen in infants prematurely born, some of which are due to developmental defects or displacements, and a considerable group of which are secondary to the posture of the fetus within the uterus Among congenital abnormalities of the trunk skeleton, the most common are scoliosis and kyphosis of the vertebral column, and deformities of the thorax The latter may result from improper development of the lungs, as in congenital atelectasis congenital heart conditions and diaphragmatic hernia More rarely, chest deformities may be secondary to lack of ossification of the ribs Malformations of the extremities are not uncommon, and vary from defects of all the extremities to rudimentary formation of the distal part of a single extremity Of the congenital changes of position and permanent contractures the most frequent are club-foot and club-hand The deformities are often multiple and may involve the larger joints as well, such as the hip joint, knee shoulder elbow and jaw Congenital dislocations of the hip are the most important of this type of deformities However, any of the joints may be involved Intra-uterine fractures may result from abnormal bone development, constriction by amniotic bands or intrauterine trauma Abnormalities of the skull may necessitate mechanical support in order to avoid further deformity The conditions of harelip and cleft palate in the very young present feeding problems rather than surgical ones Among the more common congenital diseases involving the bones and joints are mongolian idiocy chondrodystrophia and osteogenesis imperfecta Cretinism may result in premature birth, and is associated with delayed ossification The retarded skeletal and muscular development leads to malformations requiring correction

PATHOLOGIC CONDITIONS DEVELOPING AFTER BIRTH

In the second group of pathologic conditions affecting the growth and development of premature infants, I will include those becoming manifest shortly after birth The most important conditions encountered are those affecting the nervous system These are usually dependent on one of two causes, either birth hemorrhages or hydrocephalus Birth hemorrhages of the intracranial type belong in two groups In the first group may be included prenatal intracranial hemorrhages, which may have been the cause of the premature expulsion of the fetus, and in the second group hemorrhages within the cranial cavity and spinal canal which result from trauma secondary to labor, or a tendency to spontaneous hemorrhages Ylppo believes that intracranial hemorrhages are responsible for 30 per cent of the deaths of premature infants in the early days of life Hemorrhages from tears of the tentorium and subdural hemorrhages, which are the most frequent forms seen in full-term infants, are only exceptionally seen in premature infants In the latter, the hemorrhages within the cranial cavity are usually subarachnoidal or intrapial, but, in the spinal column, the hemorrhages are more commonly extradural Ventricular hemorrhages are frequently found in premature infants, but hemorrhage into the brain substance proper is quite rare Spontaneous hemorrhages, which occur in considerable number can usually be distinguished by a study of the coagulation time of the blood

Fortunately, many infants who suffer from intracranial hemorrhage escape mental disturbances, probably in large part because of a lack of development of the bony structures of the skull, allowing the brain to accommodate itself to the increased intracranial pressure Most of the infants, however, are less fortunate in escaping the different types of paralysis, which may involve the trunk muscles and from one to all of the extremities Therefore, infants and children who are mentally normal, or even precocious, with varied degrees of spastic paralyses, are not uncommon On the other hand mental defects in premature infants are in at least 75 per cent of all cases, accompanied by spastic monoplegias, paraplegias or diplegias Paraplegias or diplegias have been reported in more than 3 per cent of all the cases of surviving premature infants The figure would undoubtedly be much higher had all premature infants remained alive, since most of the infants suffering from injuries to the brain die very early The average coagulation time in full-term newborn infants is seven minutes as estimated by the Rodda method In icterus, melena jaundice due to syphilis, and nontraumatic cerebral hemorrhage, the coagulation time of the blood is prolonged in most instances, to such a degree that the diagnosis is readily made by a study of the coagulation time The subcutaneous injection of human serum is the most efficient method of treating delayed coagulation or slow bleeding The further early treatment must of necessity be symptomatic and expectant There is always a possibility that spontaneous cure may result Lumbar puncture, although primarily used as a diagnostic measure, may have a beneficial therapeutic value While decompression, with removal of surface clots, is to be recommended in hemorrhages in full-term infants, little can be expected in premature infants unless they have had almost the full period of gestation

For the various types of paralysis, mechanical corrective measures should be undertaken early, in order to prevent marked deformities Massage and active and passive movements should be practiced regularly before the end of the first year Muscle training in walking climbing and other activities should be instituted under the supervision of a trained assistant Orthopedic appliances are frequently indicated Surgical procedures may be necessary later

Hydrocephalus—True congenital hydrocephalus is usually of the internal type and associated with *enlarged ventricles The external form is rare* The megacephalic head (Yippo) of the premature infant is frequently described as a hydrocephalic head, to which it has no relation Megacephaly is dependent on the fact that the brain growth continues at its normal or a greater rate while the remainder of the body is retarded in its development, resulting in a disproportion between the size of the head and the body

Congenital hydrocephalus may follow blocking of the aqueduct of Sylvius, the foramen of Luschka or the foramen of Magendie, giving rise to the so-called obstructive type This may be due to a congenital abnormality, however, for more often obstruction is the result of intra-uterine serous meningitis or meningoencephalitis Congenital hydrocephalus of the second large group is due to interference with the absorption of cerebrospinal fluid from the subarachnoid spaces, following intra-uterine inflammation of the meninges, with resultant adhesions causing obliteration of the foramina and the cisterns Syphilis, in all probability, is more frequently the cause of congenital hydrocephalus in premature infants than in full-term infants In the latter, it is estimated that not more than 20 per cent of the hydrocephalus is due to syphilis Intracranial hemorrhages and cystic formations may be associated with secondary hydrocephalus

Many of the infants show an enlargement of the head at the time of birth, however, the hydrocephalus may become evident only after a latent period A marked retardation in the development of the brain may result The head need not be enlarged, in fact, it may be very small, as in microcephalic idiots, the brain being little more than a large cyst In many instances, shortly after birth, hypertonus and spasms of the muscles, increased reflexes and general convulsions are to be noted In others, apathy, shallow respiration and feeble heart action are present early, giving indications of involvement of the central nervous system When the characteristic enlargement of the head is absent, the diagnosis may be different Intracranial hemorrhages and meningitis must be ruled out Lumbar or ventricular puncture may be of assistance

The prognosis as to life and physical and mental development is dependent on the underlying pathologic condition The only early therapeutic measure is lumbar or ventricular puncture, with drawing off of cerebrospinal fluid Later, surgical interference may be indicated

Traumatic Injuries—Trauma, with fractures, epiphyseal separations and dislocations and nerve injuries resulting from labor are seen in a greater percentage of premature infants than in full-term infants Owing to the inability of these weaklings to give expression to their pain and discomfort, the pathologic conditions may go undiagnosed for weeks The infants should be viewed as potential subjects for traumatic injuries in all cases in which version and manual extraction are practiced Roentgenograms should be made in very doubtful cases Early institution of surgical measures is necessary to minimize deformities

NUTRITIONAL DISTURBANCES DURING FIRST MONTHS OF LIFE

In the third group of pathologic conditions affecting the growth and development of premature infants, nutritional disturbances during the early months of life, secondarily affecting the nervous, osseous and muscular systems, are especially common to premature infants In fact, the infants of this class escaping without such affections are the exception, and their absence suggests an understanding of their needs by the physician and attendants, and the institution of proper feeding and general care It has been my experience to come in contact with large numbers of cases in which nerve, muscle and bone pathologic conditions were unrecognized until gross deformities had developed Every premature infant should be viewed as a potential case of rickets, spasmophilia and secondary anemia, and the possibility of latent scurvy should be considered The fact must not be overlooked that premature infants develop manifest clinical evidences of rickets and secondary anemia by the second to the fourth month, while full-term infants rarely show bone lesions of rickets which can be diagnosed before the fifth or sixth month by roentgenograms

Rickets—The more prematurely born the infant is, the greater is the tendency to develop severe types of rickets, and, in infants born in the seventh and eighth

months of fetal life, even human milk is not an absolute protection against the development of pathologic conditions in the bone and muscle

The etiology is to a large extent dependent on three important factors first, the chemical constitution of the premature infant, which differs from that of the full-term infant, the salt content of the body being far below the normal second, underfeeding, third, improper environment Bunge, in his researches, found that the body of the average 4 months old fetus contained 14 gm of ash at six months, 30 gm, and, at nine months, 100 gm showing that two thirds of the minerals of the full-term infant were due to retention occurring during the last three months of fetal life In the new-born fully 75 per cent of the ash is made up of calcium and phosphate, which represent the chief constituents of the bones From 85 to 90 per cent of the bone ash is composed of calcium phosphate, from 10 to 15 per cent of calcium carbonate, and a small amount of magnesium phosphate

In premature infants there is also a very low calcium retention during the first months of life (Hamilton) This is probably dependent on several factors, among the most important being the low mineral content of the body at birth and the restricted intake of foods which in themselves are low in calcium and phosphorus, such as breast milk and cow's milk mixtures of high dilution In the light of our present knowledge we cannot but be convinced that sunlight plays an important part in the mineral metabolism of the body It is the common experience to find the premature infant stored away in a secluded corner of a poorly ventilated and, not infrequently, dark room or, even worse, in a closed incubator

Pathology Rachitic premature infants show bone changes which present a pathologic picture different from the lesions seen in full-term infants, which develop at a later period during the first year They are chiefly characterized by the development of megacephaly, characterized by a large round head with prominent frontal and parietal eminences and wide open sutures Megacephaly (Ylppo) in the literature is commonly spoken of as hydrocephalus, with which, in the majority of cases, it has no relationship, the main exceptions being syphilis and conditions causing obstruction in the cerebrospinal canal, and spina bifida The apparently large head in these cases is due to the fact that the growth of the brain tends to continue at its normal or a greater rate while the development of the remainder of the body is to a large degree retarded The changes in the long bones often lead to error in diagnosis because of a typical change in the zones of proliferation Only rarely are broadening, cupping and saw-tooth changes noted at the epiphyseal borders More commonly the metaphysis is seen as a straight line with a hazy appearance of normal breadth, while the cartilage alone is enlarged Similar changes are observed at the costochondral junctions Clinically, therefore, a moderate enlargement is noted at these points while roentgenologically only minor changes are seen in the bones

Pathologic fractures are of frequent occurrence and are usually partial, with a resulting deformity due to angulation These are especially common in extreme cases of tetany, owing to overaction of the muscles in the presence of carpopedal spasms

Treatment Prime importance must be placed on a careful study of the previous diet and life history of the infant In consideration of the preceding diet, the cases may be classified into the breast-fed and the artificially fed In the breast-fed, the diet usually errs in the direction of an insufficiency Breast milk contains 2 gm of ash per thousand cubic centimeters, of which 0.458 gm is in the form of calcium Holt, in his studies on calcium metabolism, found that breast-fed infants required 0.06 gm of calcium per kilogram, or about 120 c.c. of breast milk per kilogram Because of the obstacles to be overcome in feeding these infants, most of them, therefore, receive an insufficient amount of food to meet the needs during the first weeks In the artificially fed, even though cow's milk averages 1.72 gm of calcium per thousand cubic centimeters, because of the difficulty of digesting this food and the use of high dilutions, even greater obstacles present themselves The same may be said of the feeding with proprietary foods all of which are poorly balanced in their salt content

Hygiene The infant should at all times receive a sufficient amount of warm fresh air, and should be exposed to the sun's rays during the day As soon as the infant has developed sufficiently to permit handling (mothering) in the form of frequent changes of position and light, massages are invaluable The infant must at all times be protected from infection Orange juice and cod liver oil, the latter combined with phosphorus should be added to the diet in small quantities at the end of the first month of life In the artificially fed fresh cereals in the form of well cooked gruel can usually be added by the fourth month of life, and fresh vegetables in the form of a vegetable-cereal soup may be started by the sixth month

Deformities.—Development of deformities of the osseous system, more especially of the spine and long bones, can be to a large extent prevented Infants should be discouraged from walking until the bones are firm Head deformities can be lessened by changing the position in which the infant sleeps Scoliosis may be avoided by preventing the child from bearing weight on the spine through early attempts at sitting, and by preventing improper holding and carrying of the infant Bowing and distortion of the legs often follow crossing of the legs around the pot-belly Coxa vara is due to bearing the weight of the trunk before sufficient calcification has occurred Many of the deformities may be avoided by the institution of proper orthopedic measures Massage is of great value in strengthening the weakened muscles

Secondary Anemia.—Closely associated with rickets is an anemia which develops quite regularly and strikingly during the first three months of life There is a very distinct and early hemoglobin impoverishment which reaches its maximum in the third or the fourth month Lichtenstein believes that the early anemia in the first three months of life is a hypoplastic condition resulting through insufficiency of the hematopoietic system The later oligochromemia is probably a sequel of impoverished iron storage Landry has shown that the older the fetus, the higher the iron content of the body Diseases in the mother, such as nephritis, anemia and tuberculosis, of necessity have a direct influence on the iron content in the infant The low iron content of breast milk, 0.0017 gm per liter, and of cow's milk 0.0007 gm per liter, with the minimum intake of food and difficulties of metabolism, all have a direct bearing on the development of anemia as have also lack of fresh air and sunshine The blood picture in the well,

breast-fed premature infants, and in those showing alimentary disturbances, shows an anemia of chlorotic type

Treatment For the general and hygienic treatment of primary and secondary anemia, the suggestions made for general measures in the care of rachitis should be followed The infant must, above all, be given the advantage of a good environment, plenty of fresh air and sunshine

Iron therapy for the purpose of increasing the iron content of the tissues and the hemoglobin should be started early Among the iron compounds to be recommended are ferri carbonas saccharatus, ferri et ammonii citras or ferri lactas in doses of from 0 03 to 0 12 gm (½ to 2 grains) from one to three times daily

Small doses of liquor potassii arsenitis, from 0 03 to 0 06 c c , may be given one or two times daily for short periods The infant should be observed carefully for evidence of arsenic intoxication In the presence of congenital syphilis, mercurial therapy is imperative and may be combined with the arsenic treatment to good advantage

It is of the greatest importance to bear in mind that, as in the case of rachitis, the treatment for anemia should be started early It is our custom to begin the prophylactic treatment of both of these conditions in the first weeks of life

Spasmophilia —The term spasmophilia diathesis, as applied in the clinical sense refers to a constitutional anomaly characterized by a general hyperexcitability and irritability of the nervous system The most frequent active manifestations are general convulsions laryngospasms, spasmodic apnea and carpopedal spasms Among the latent manifestations are Chvostek's facial phenomenon and Trousseau's sign Among the most constant findings is Erb's sign, the presence of hyperexcitability of the peripheral nerves, as evidenced by increased reaction to the galvanic current

Spasmophilia appears earlier in premature infants than in full-term infants, and may be manifest as early as the sixth to the tenth week of life The blood of these infants shows a marked decrease in its calcium content Kramer, Tisdale and Howland found the calcium of the blood serum, in the presence of active manifestations, in the average of their cases to be 5 6 mg per hundred cubic centimeters of serum, as compared with from 10 to 11 mg in normal infants, while the inorganic phosphorus of the serum, in about half their cases, was within normal limits or slightly above normal This is in marked contrast with cases of rickets uncomplicated by tetany, in which they found a much reduced inorganic phosphate serum content The significance of this relatively high phosphate content in the presence of decreased calcium, in cases of rickets complicated by tetany, is as yet unexplained The interest of the orthopedists in tetany depends to a great extent on the secondary complications, such as intracranial and intraspinal hemorrhages following convulsions, and the fractures and deformities secondary to tonic carpopedal spasms Several cases of fracture due to prolonged and powerful contraction of the extremities have come under my care Such deformities necessitate prompt general dietetic and medicinal treatment, reduction of the deformities and immobilization

Scurvy —All that has been said of the etiologic factors of rickets has an equally important bearing on the development of scurvy Many cases of latent scurvy undoubtedly remain unrecognized The severer types of hemorrhage and cases complicated by pathologic fractures, epiphyseal separation and intracapsular hemorrhage need surgical care as well as dietetic treatment

5717 Blackstone Avenue

ABSTRACT OF DISCUSSION

Dr W McKim Marriott, St Louis Dr Hess has brought out two important points, first, that a premature baby is potentially an orthopedic patient, and secondly, that realization of this fact early enough may prevent a great deal of trouble later on It is a fact not generally recognized that birth hemorrhage occurs more frequently in premature infants than in those born at term, even though the latter may be delivered by forceps A certain number of premature infants during the first few months of life slowly develop a condition of opisthotonos This does not seem to be dependent on birth hemorrhage It has been our experience that the most satisfactory way to treat these infants is to keep them on the Bradford frame continually until there is no more tendency to opisthotonos Unless this is done, the deformity may last a long time Such a large proportion of premature infants develop rickets that it seems safe to consider that they will all develop rickets ultimately, and to treat them accordingly It is advisable as a routine, to give every premature infant a small amount of cod liver oil, 5 drops, three times daily, is usually sufficient to prevent rickets in infants of this type There is no advantage in adding phosphorus to the cod liver oil A certain number of premature infants who develop rickets may also show evidences of spasmophilia or tetany, as Dr Hess has mentioned, and this may secondarily lead to cerebral hemorrhage as a result of the convulsions The specific for tetany is calcium To control the active manifestations, large doses of calcium chlorid are required from 10 to 15 grains, four or five times daily

Dr Julius H Hess Chicago After illustrating some of the pathologic conditions encountered in premature infants, I would say that they are in great part worth saving They are deserving of the full consideration of the diagnostic group of the hospital in which they are born and not the least important factor in proper orthopedic inspection

SUBSEQUENT COURSE OF A CASE OF ADDISON'S DISEASE

LEONARD G ROWNTREE, M D
Director of Medicine the Mayo Foundation
ROCHESTER, MINN

Under the heading "An Autograph History of a Case of Addison's Disease," the late Dr A L Muirhead [1] gave an unusually interesting description of the clinical course of his own illness In this report we find a professor of pharmacology investigating and recording the subjective and objective results of treatment on himself, and the effects of drugs on the course of Addison's disease, from which he suffered and eventually died I will record the course of events subsequent to his report, which covered his illness until December, 1920

CLINICAL COURSE

Dr Muirhead left the Mayo Clinic, Aug 11, 1920, and for several months continued to improve The pigmentation had almost disappeared and he was able to resume his work as professor of pharmacology in Creighton Medical School Improvement continued until Jan 25, 1921, when there developed a gastric upset, loss of appetite, abdominal discomfort and weakness accredited by Dr Sachs, his personal

1 Muirhead A L An Autograph History of a Case of Addison s Disease J A M A 76 652 (March 5) 1921

physician, to hyperacidity The attack yielded somewhat to sodium bicarbonate, magnesium oxid and bismuth so that he was again able to return to his work However, the weakness persisted and he was placed on digitalis Subsequen to January 25, the salivary secretion was deficient, and he lacked appetite and could not relish food He continued on suprarenal treatment, epinephrin solution 1 1,000, 3 minims, twice a day hypodermically, rectal injections of 1/100 gram of the whole gland, and two capsules, 10 grains each, of whole gland, by mouth, at night In February, the weakness and shortness of breath became more pronounced He suffered from pain in the left upper portion of the chest which Dr Sachs called "low pressure angina" The pain was relieved by heat, exertion food and nitroglycerin

In March, 1921, Dr Muirhead returned to the clinic, complaining of extreme weakness which confined him to bed and of pain in the left shoulder The pigmentation was marked He was extremely asthenic, and suffered almost constantly from gastro intestinal symptoms, especially burning in the stomach The heart was slightly enlarged and the sounds were of poor quality An electrocardiogram disclosed a rate of 92, sinus tachycardia, notched QRS complex in all leads arborization block, and slight right ventricular preponderance The blood pressure was 86 systolic and 54 diastolic, the blood urea was 56 mg for each hundred cubic centimeters, and the uric acid 2 8 mg The hemoglobin was 68 per cent, and the erythrocytes numbered 3 820 000 The patient ate very sparingly, and toward the end of his stay developed a mild acidosis He left the clinic, March 23 unimproved The subsequent course of the disease is submitted in Dr Sachs' report

"The blood pressure just prior to his death was 84 systolic and 60 diastolic Dr Muirhead had a mild acidosis from time to time, for which he was given alkalis Alkalis during the latter part of his illness distressed him greatly and were discontinued His gastric acidity changed from a hyperacidity to a hypo-acidity He progressively became more asthenic until it became difficult for him to swallow He gradually lapsed into coma, and died, April 26, 1921"

REVIEW OF CASE

Clinically, Dr Muirhead presented a typical, slowly progressing case of chronic Addison's disease with pigmentation, marked asthenia, intestinal discomfort, and low blood pressure He gave a questionable history of renal tuberculosis, but tuberculosis was not borne out at operation, a right side nephrectomy being performed in 1918

Subsequent to the nephrectomy, gout developed, the patient suffered from typical attacks of great severity, involving the metatarsophalangeal joints associated with high level of uric acid in the blood Both the gout and blood uric acid responded promptly and permanently to a low purin diet It is of interest to speculate on whether or not the removal of the kidney was a factor in the increase of the blood uric acid and in the development of gout

The patient's improvement under treatment with epinephrin and the whole suprarenal gland during the first visit to Rochester, and after his return home, was striking objectively as well as subjectively Rectal injections of epinephrin proved effective for a considerable period, although they were finally discontinued because of tenesmus Glandular therapy was of unquestionable value in the relief of asthenia and of gastro-intestinal discomfort, and resulted in a temporary clearing up of pigmentation. For a time at least, it also checked the general course of the disease

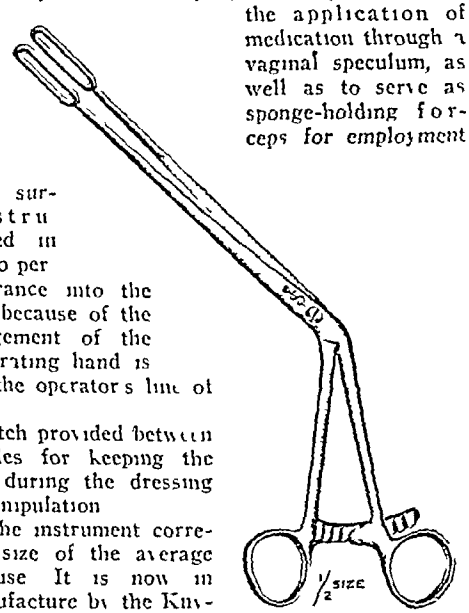
Although the results were only temporary, they were almost miraculous Such definite relief of symptoms in the chronic form of the disease justifies a thorough trial of such measures in other cases of Addison's disease

Clinical Notes, Suggestions, and New Instruments

NEW ANGULAR UTERINE DRESSING AND SPONGE-HOLDING FORCEPS

ALBERT M CRANCE M D, GENEVA, N Y

The instrument shown in the accompanying illustration was designed chiefly for use as sponge-holding forceps for the application of medication through a vaginal speculum, as well as to serve as sponge-holding forceps for employment in gynecologic surgery The instrument is shaped in such a way as to permit direct entrance into the speculum, and, because of the angular arrangement of the handle, the operating hand is entirely below the operator's line of vision



New angular uterine dressing and sponge holding forceps

There is a catch provided between the ring handles for keeping the forceps locked during the dressing or sponging manipulation

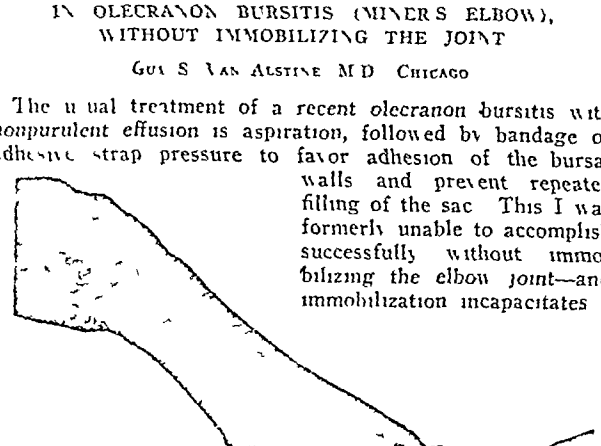
The size of the instrument corresponds to the size of the average speculum in use It is now in process of manufacture by the Kny-Scheerer Corporation

Schmrel Building

A METHOD FOR MAINTAINING PRESSURE OVER ELBOW IN OLECRANON BURSITIS (MINER'S ELBOW), WITHOUT IMMOBILIZING THE JOINT

GUY S VAN ALSTINE M D CHICAGO

The usual treatment of a *recent olecranon* bursitis with *nonpurulent effusion* is aspiration, followed by bandage or adhesive strap pressure to favor adhesion of the bursal walls and prevent repeated filling of the sac This I was formerly unable to accomplish successfully without immobilizing the elbow joint—and immobilization incapacitates



Bandage cut from inner tube of automobile tire

The accompanying reproduction of a photograph illustrates a bandage cut from an automobile inner tube which, I find, will maintain sufficient pressure to bring about obliteration of the bursal sac without greatly inhibiting the joint action With this device my patients have been able to continue their usual occupations while under treatment This treatment is not suitable in old chronic cases with thickened, fibrous sacs, or in acute suppurative bursitis

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SATURDAY, AUGUST 12, 1922

PRODUCTION OF BILE PIGMENT WITHOUT INTERVENTION OF THE LIVER

The question of the origin of the bile pigments has played an important part in the interpretation of disorders of the liver. Until lately this organ has been *held primarily responsible for the appearance of bilirubin* and its companion pigments, whether in the bile which represents their normal habitat or in the blood and tissues wherein their occurrence is essentially an abnormality. The generally accepted hypothesis has been that the pigments responsible for the characteristic discoloration in jaundice are manufactured in the liver, whatever the cause of their absorption into the blood may be, and there is agreement in regarding the blood pigment, hemoglobin, as the precursor of the bile pigments.

Icterus may occur not only after obstruction to the outflow of bile, but also following hemolysis not associated with interference with the hepatic secretion. It is, of course, readily conceivable that in the latter case the liver cells are nevertheless concerned in the genesis of the bile pigment which happens to be returned directly into the blood stream instead of the biliary capillaries. Types of hemolytic icterus have been described in which the kidneys excrete bilirubin without the bile salts which might be expected to accompany it if the abnormality represented a mere perversion of bile production. Consequently, it has become more common in recent years to assume that in such cases of "dissociated" icterus—that is, bile pigments present in blood and urine unaccompanied by bile salts—the liver does not seem to be concerned.

In his lecture before the Harvey Society at New York in January, Whipple[1] reviewed anew the evidence that true bile pigment can be formed from hemoglobin within the body or by other than liver cells. Whipple and Hooper[2] showed that this transformation could be effected within two hours in the blood stream of the head and thorax with complete liver exclusion. The same workers[3] showed that hemoglobin can be transformed into bilirubin in the serous cavities within a period of twelve hours. It is regarded by Whipple as probable that the vessel endothelium and Kupffer cells are concerned in the vascular reaction.

Additional support to the view that hemoglobin can be changed to bile pigment and other substances, quite apart from essential liver cell activity, has lately been furnished[4] at the Massachusetts General Hospital, from a study of patients exhibiting paroxysmal hemoglobinuria. In a particularly instructive case, intravascular hemolysis was produced in a very restricted portion of the circulation. Thus, the products of hemolysis were completely isolated from the influence of the general circulation or of any of the organs of the body. Free hemoglobin was liberated, and reached its greatest concentration in the plasma in twenty minutes. Although still completely isolated, the free hemoglobin rapidly diminished in concentration. Accompanying this reduction in hemoglobin concentration there was a marked increase in the bilirubin content of the plasma, as indicated by a positive Gmelin test and by a change in color of the plasma from a reddish yellow to a dark golden yellow. As no bile pigment had been introduced into the blood of the isolated arm circulation at any time, it is evident that the free hemoglobin had undergone a transformation in the bilirubin in the local blood vessels, capillaries and tissue spaces. It was concluded that such experiments suggest that a large part of the transformation of hemoglobin into bilirubin could occur normally in the blood vessels. Possibly the greater portion of this change takes place ordinarily in the blood vessels of the liver because of the vascularity of this organ. If the catabolism of hemoglobin can actually be accomplished without the intervention of the hepatic tissue proper, the story of pigment metabolism in the body will need to be rewritten.

THE LYMPHATICS IN TUBERCULOSIS

In the conventional discussions of the physiology and pathology of the body, only scanty attention is usually paid to the lymphatic system. This is perhaps due to the fact that the latter does not obtrude itself so conspicuously as does the blood vascular system for observation, in part it is due to the lack of information regarding the "middleman" between the blood and tissues, and the spaces within which the lymph is confined. From the standpoint of nutrition and cellular function, the significance of the lymphatic system becomes emphasized by the fact that in no part of the body does the blood come into direct contact with the tissue cells, for it is confined in vessels with distinct

1 Whipple, G. H.: Pigment Metabolism and the Regeneration of Hemoglobin in the Body, Arch. Int. Med. **29**: 711 (June) 1922.

2 Whipple, G. H., and Hooper, C. W.: Icterus: A Rapid Change of Hemoglobin to Bile Pigment in the Circulation Outside the Liver, J. Exper. Med. **17**: 612 (June) 1913.

3 Hooper, C. W., and Whipple, G. H.: J. Exper. Med. **23**: 137 (Jan.) 1916.

4 Jones, C. M., and Jones, B. B.: A Study of Hemoglobinemia: Metabolism in Paroxysmal Hemoglobinuria, Arch. Int. Med. **29**: 669 (May) 1922.

walls The exchange of materials—food products and waste substances—goes on through the intermediation of extravascular fluids Some of these are contained in the tissue spaces, others in what is now regarded as a closed system of vessels comparable with the blood vessels In fact a recent writer [1] has summarized the present-day belief by pointing out that the tissue spaces are not continuous with the lymphatics, any more than they are with the blood capillaries, indeed, in many situations in the body there are no lymphatics, yet tissue spaces and tissue fluids exist in them The term "lymph," on this view should be restricted to the fluid in the lymphatics It may or may not be the same as the tissue fluids we are further told, but until their identity has been established it is preferable and more exact to speak of tissue fluids and of lymph, regarding them as distinct from one another Lymphatics are associated with the connective tissues and are much more limited in their distribution in the body than are blood vessels

Soluble and diffusible matter finds no difficulty in gaining entrance into the circulation and thus becoming readily distributed in the organism On the basis of the views expressed above, however, the lymphatics seem to be especially concerned with the intake and transport of undissolved particles of which bacteria afford a typical example They may find their way into the lymphatics through the agency of ameboid phagocytic cells which can penetrate the walls of conducting systems Once in the lymphatics, however, the path of progress is filled with numerous obstructions in the lymph glands

In a report to the Medical Research Council in Great Britain Herring and MacNaughton [1] of the University of St Andrews have called attention anew to the function of the lymph glands, particularly in relation to the tubercle bacillus In its early stages in the body, the fate of this micro-organism is much the same as that of other insoluble particles The lymph gland is an extremely efficient filter and allows solid particles to traverse it only when they arrive in too great numbers at a time or when the gland has become disorganized The British investigators point out anew that the lymphocytes of the lymphoid tissue act as a mechanical barrier against the escape of the particles, and eventually the barrier is made more complete by the appearance in it of fibroblasts and the formation of fibrous tissue The foreign material is firmly enclosed, while the lymph sinuses are left open for the free passage of lymph

In the case of tubercle bacilli some of which may be destroyed in their encounter with body cells, their multiplication in a tuberculous focus in the lymph glands gives rise to an added complication through the possible production of soluble toxins As Herring and MacNaughton further conclude, these easily transported products set up an intense lymphocytosis in other glands through which the lymph passes The toxin or other chemotactic substance precedes the bacilli and renders the glands less pervious to them by narrowing the lymph sinuses and filling them with lymphocytes The physiologic mechanism generally considered protective we are further assured, may cease to be so and may actually further the spread of the disease What protection is afforded appears to be merely a mechanical one and the gland in which the organisms are successfully immured by fibrous tissue, when this does occur may remain a source of further infection if for any reason the protective barrier is broken down

[1] Herring P T and MacNaughton F G On the Lymphatics and Lymph Glands Their Role in Absorption of Foreign Particles and Tubercle Bacilli Lancet 1 1081 (June 3) 1922

REGURGITATED ECTOPLASM

Medicine is concerned with phenomena which involve the fundamental sciences of physics, chemistry, biology and psychology These departments of human knowledge do not represent a finished development, they are subject to the changes which progress in inquiry always brings about and to the growth which is the glory of learning Scientific discovery and sober reflection are forces which pave the way to advancement, there is nothing occult or mystical about them, they are natural rather than supernatural activities Now and then the observer encounters phenomena which seem to defy interpretation on the basis of the known laws of the sciences Under such circumstances there is often an almost irresistible temptation to ascribe the seemingly inexplicable to some unique "superscientific" potency In former centuries, 'animal spirits" were called on to assume responsibility for that which could not be explained by current knowledge Subsequently, within the recollection of many among us, the physiologic activities that failed to admit of ready interpretation in harmony with the biologic sciences were designated as "vital"

"Vitalistic' explanations, implying reaction beyond the pale in which the laws of physics and chemistry apply in the body, have long been popular The history of learning ought, however, to furnish adequate warnings of the unwisdom of venturing explanations which call for mere faith without demonstration Many of the miracles of ancient days—and even of modern times—have been dissipated by the advance of knowledge The rise of bacteriology has meant the fall of much superstition and ignorant belief A trained mind will not say "I cannot know" when, in reality, it intends to convey the information, "I do not know"

In addition to the natural mystery which attends the limitations of knowledge in many fields of science—mystery such as that of the nature of heredity, the forces of absorption and secretion, the regulation of growth and development—there are conjured mysteries

which boldly flaunt their marvels into the faces of a receptive world Occult science—an obvious misnomer—has long been used not only to secure homage from the gullible but also to attempt ridicule of the devotees of that organized common sense which true science represents Recently "spiritism" has again come into the limelight as an instance of present-day credulity Instead of mysterious levitation, the latest phase of the old scheme of transcending the known types of action, physical or psychic, consists in evoking manifestations of the ectoplasm" Those who have the "will to believe" can supposedly observe the mediums giving "temporary immaculate birth to fugitive parental matters without organic growth and not capable of permanent life, but nevertheless capable of immediate temporary formations subject to tremendous exertions of imagination and will power expressed by the medium herself or through the medium by others present"

Here is something to tax the ingenuity of the incredulous scientist, we are assured Manifestations of no mere protoplasm, the physical basis of life, but of a subtle ectoplasm of intangible tangibility and of outside origin And have not great minds admitted seeking this remarkable substance, which is not living and yet takes the form of living matter in the indispensable cabinet? But the ways of the scientific skeptic are inquisitive A group of psychologists and physiologists in Paris have attended the seances of an ectoplasm specialist and discovered not some rare inexplicable emanation issuing from the medium's person but merely a substance coming from the mouth after a convulsive movement characteristic of emesis And so the mystery of the ectoplasm is unmasked "This formidable twentieth century biologic miracle," says the New York *Times* the three wise men of the University of Paris dare to call a vomit!

CONTINUE THE EMBARGO ON DYES AND DRUGS

Unless prompt action is taken, the people of the United States may soon be paying exorbitant tribute to Germany once more as the price of recovery from disease and of the maintenance of health Caught between the opposing forces in the conflict between the importers of German dyes and American dye makers, now being carried on in the Senate in connection with tariff legislation the synthetic drug industry in the United States, built up as a result of lessons learned during the World War, is threatened with extinction Again German domination of our drug markets looms up as a not remote possibility

Those synthetic drugs found to be of service in the relief of suffering are mostly side products in the manufacture of dyes from coal tar, and their production, on a commercial basis, is not possible except when carried on along with the dye industry With the outbreak of the World War in 1914, commerce with Germany was promptly cut off by the blockade established by her enemies, and we, although then a neutral nation, found ourselves not only without the dyes and essential drugs formerly supplied almost exclusively by Germany, but even without means for producing them Driven by the conditions thus created by the blockade, and later impelled by conditions that resulted from our own entrance into the war, an industry was created within our own borders whereby needed drugs were produced and our civilians and military forces alike supplied with these necessary agents When the armistice was proclaimed, we possessed an infant industry which experience had shown to be necessary to the continued welfare and safety of the American people, and particularly for the relief of the sick

After careful consideration and debate, as a matter of sound economic policy deliberately determined on, and in order that this infant industry might live, a limited embargo was laid against the importation of synthetic drugs and of the dyes with which in their manufacture they were associated, so long as no necessity might exist for importing them Up to the present time our domestic drug supply has been adequate, and as the result of competition among American manufacturers the sick have been able to supply all their needs at fair prices, instead of paying unconscionable tribute to foreign manufacturers The synthetic drug industry now shows signs of growth and of increasing strength that promise sooner or later to make it a substantial factor not only in American prosperity but also in the maintenance of American health and national security

Recently, however, a movement has been initiated that seems likely, if successful, to undo everything that has been accomplished the protecting embargo is to be raised, and the still feeble dye and drug industries are to be protected only by certain proposed tariff schedules Those most familiar with the situation assert that as a result the industries will die, that the duties proposed are inadequate to protect the industries, and that in the present stage of development of these industries no tariff schedule can be framed that will be adequate

No sufficient evidence has been adduced to justify the opinion that American dye and synthetic drug industries will survive if they are thrown just now into competition with the highly organized, war-perfected factories of Germany, operated by poorly paid German labor In the absence of such evidence, it would seem to be folly to take any action that may destroy them The welfare of the people, and particularly the welfare of the sick, requires that the manufacture in the United States of synthetic chemicals for medicinal purposes be protected and built up To that end it is necessary to protect and build up the dye industry, for without it these chemicals cannot be made on a commercial basis In view of the public health aspects of the matter, the

medical profession should make its voice heard in no uncertain terms, protesting against the removal of the embargo. Write or telegraph to your senator today!

Current Comment

VAQUEZ-OSLER DISEASE

A quarter century has elapsed since the attention of clinicians was first clearly directed to a syndrome including erythrocytosis, general cyanosis, and enlargement of the spleen. Vaquez and Osler deserve credit for having brought this unique polycythemia into general notice, and for having dispelled the earlier belief that the malady represents essentially a splenic tuberculosis, hence the justification for the designation Vaquez-Osler disease. Increment in red blood corpuscles is known to occur in the cyanosis of congenital heart disease in which the circulation is too slow, and particularly as a response to the needs of respiratory exchange under conditions of oxygen shortage, such as occurs at high altitudes. Polycythemia under these conditions is a compensatory overproduction of red cells to facilitate the gaseous metabolism of the organism. In the cryptogenic type of polycythemia, however, the stimulus is not oxygen deficiency so that the blood picture does not represent a beneficial response of the blood-forming tissues. The true pathogenesis of the disease remains unknown. In a recent address before the Royal Society of Medicine in London, Vaquez[1] ventured to liken the harmful, cryptogenic polycythemia that bears his name to the overgrowth of the blood, just as solid tissues may develop tumors. Thus, Vaquez's disease might be thought of as a benign tumor of red corpuscles, as leukemia is a malignant tumor of leukocytes. The conception of blood as a distinct tissue is by no means new, and the direction of attention to this view may be productive of helpful studies in the domain of a still obscure malady.

THE TREATMENT OF TYPHOID CARRIERS

In the course of routine bacteriologic examinations of the bile at necropsies, Murstad[2] of the Gade Pathologic Institute in Bergen found typhoid bacilli in a man, aged 58, who had had typhoid fever twenty years before, but who so far as could be learned had not been connected with any epidemics. Numerous typhoid and colon colonies were obtained also from different parts of the liver, from the wall of the gallbladder, and from gallstones in the latter. On the basis of these observations, Murstad studied twenty-two records in the literature of necropsies on typhoid carriers, in eighteen of whom typhoid bacilli were recovered. In nearly all the liver, as well as the gallbladder, contained typhoid bacilli, but it seems that the gallbladder is the principal permanent abiding place of the bacilli, and that if the gallbladder is removed, the bacilli soon disappear from the liver. At any rate, Murstad's analysis of the results of gallbladder operations in twenty-four carriers appears to support this view. In four of eight cases in which cholecystostomy was performed, and in fifteen of sixteen cases in which cholecystectomy was performed, the bacilli disappeared. In Murstad's own experience, however, cholecystectomy failed to eliminate the bacilli from the stools, indicating that a focus or foci of infection persisted somewhere in the liver or the intestinal tract. In view of the fact that the carrier is a most important factor in the spread of typhoid fever, which would become a very much rarer disease than it is even now if carriers could be cured promptly, it would seem that cholecystectomy should be made in carriers for the good of the community as well as for the good of the carriers themselves. Finally, Murstad emphasizes that while the treatment by disinfectants has no effect in the case of carriers with typhoid bacilli in the bile and stools—the so-called fecal carriers—urinary carriers may be sterilized by drugs, the most effective being hexamethylenamin and other members of the formaldehyd group. Vaccine treatment of carriers should be abandoned because it is ineffective.

PROTECT AMERICAN CHEMICAL INDUSTRIES

Every reader of THE JOURNAL is urged to telegraph or to write at once to his senator at Washington, protesting against the removal of the embargo on synthetic drugs and on dyes. One of the benefits that came to the United States as a result of the World War is freedom from German control of its dye and synthetic drug industries. In bringing about that freedom, the embargo has been a most important factor. To remove the embargo now just as these industries are beginning to get firmly established invites disaster, the industries will be overwhelmed by a flood of foreign goods, let loose perhaps for the very purpose of destroying them in their infancy. On behalf of your patients and in the interest of the public health protest against the removal of the embargo and protest now.

SKIN COLORATION IN HEMATINEMIA

The demonstration that abundant intakes of foods relatively rich in carotinoid pigments, such as occur in carrots, tomatoes and other color-yielding plant products, may lead to a retention of carotin in the body sufficient to occasion discoloration of the skin has served to call attention to the possibility of erroneous diagnoses of icterus. Although superficial inspection may temporarily give rise to mistakes of judgment based on mere observation of persons exhibiting carotinemia, the detection of bile pigments by chemical means in the urine can always be depended on to dispel any doubt with respect to jaundice. Schumm[1] of Hamburg has called attention to an added type of brown-yellow discoloration of the skin in cases of marked hematinemia. The occurrence of hematin as an occasional free constituent of the blood has only lately received any considerable recognition. Schumm, who

1 Vaquez: Presse Latine, Jr. 3, 1922, p. 1102.
2 Murstad: Med. Rev. 28, 2, 1921.

1 Schumm, O.: Hämatin als pathologischen Bestandtheil des Blutes, Ztschr. f. physiol. Chem. 97: 32, 1916.

has described a number of cases, regards it as an unquestionably pathologic manifestation which has already been discovered in certain types of intoxication with both organic and inorganic poisons, and in pernicious anemia, malaria, some forms of sepsis, eclampsia and other diseases The possible genetic relationships between hematin and the long recognized hematoporphyrin and bilirubin which may arise under pathologic conditions remains to be elucidated It is important to realize the necessity of being on the lookout for the rarer forms of abnormal pigmentation

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES *NEW HOSPITALS EDUCATION PUBLIC HEALTH ETC*)

ALABAMA

Personal—Dr William H Abernathy, Florence recently resigned as county health officer of Lauderdale County and has been appointed health officer of Pike County and will reside in Troy He succeeds Dr Douglas Cannon, who has been appointed state director of county health work

New Sanitation Rules—New regulations defining the sanitary requirements facilities and conditions under which circuses street fairs county agricultural fairs and similar exhibitions may be held in Alabama were adopted by the state board of health, July 10 Permanent exhibition grounds are to be provided with separate drinking fountains, plainly designated for each race Persons suffering from any communicable disease are prohibited from handling or serving food or beverages on any exhibition grounds——Temporary camps and communities within the state of Alabama must henceforth be conducted in accordance with special rules and regulations adopted, July 10 A community consisting of three or more dwellings of comparatively temporary construction located close to one another, in existence for a period greater than seven days, but not to be occupied for an indefinite period shall be regarded as a temporary community This definition includes mining camps, highway and railroad construction camps, and religious, educational and recreational encampments The territorial limits or boundary of such a temporary community or camp shall extend one-fourth mile (0 4 kilometer) in every direction from any house, cabin tent or other structure which is occupied as a part of such unincorporated community All structures intended for dwellings by human beings shall be of such nature as to furnish protection against undue exposure

ARKANSAS

Fire Destroys Hospital—The Stout Hospital at Brinkley was destroyed by Fire July 27 The loss is estimated at between $13,000 and $14,000

New Nurses' Home at St Vincent's—Construction work has been started on a new three story and basement nurses home for St Vincent s Infirmary at Little Rock The residence is to cost approximately $100,000 and will accommodate eighty nurses Sanders and Ginocchio of Little Rock drew the plans

CALIFORNIA

Personal—Dr Frederick P Gay professor of pathology at the University of California Berkeley has been elected chairman of the division of medical science of the National Research Council——Prof Lewis M Terman has been appointed head of the department of psychology at Stanford University, San Francisco to succeed Prof Frank Angell, who retired recently

COLORADO

Joint Meeting—A special meeting of the Denver Dental Association and the Medical Society of the City and County of Denver was held, August 8, to discuss the antivivisection bill

DELAWARE

New Health Plan—At a meeting of the board of health and representatives of the county medical organizations at Wilmington, a complete set of regulations for the handling of cases of communicable diseases that may arise in the city was approved The purpose of the new regulations is to bring Wilmington in line with the latest practice of the large cities of the country in handling epidemics or single cases of infectious disease, and by having the code in published form to make its methods known to all who are liable to come in contact with them The rules will be printed for distribution

FLORIDA

Near Epidemic of Dengue—According to the reports of the city health officer of Tampa, dengue is rapidly assuming epidemic proportions in that city Eleven cases were reported in two hours, July 7, and the total for that day reached forty victims of the fever One hundred and twelve dengue patients have been reported since the count began

Venereal Disease Control—The fight against venereal disease being conducted by the Florida State Board of Health is proving very successful, it was recently announced There were under treatment in the clinics of the state, during June, 1 199 cases of syphilis in males, 750 cases of syphilis in females, 136 cases of chancroid in males and 13 cases of chancroid in females, making a total of 3 101 persons under treatment during the month This work is part of the work of the division of venereal disease, which is one of the divisions of the bureau of communicable disease of which Dr George A Dame is director There are at present twelve clinics in the state for the free treatment of indigent cases and for a graduated fee in cases of the nonindigent who are not able to pay a full fee Four of these clinics are conducted by physicians employed by the Standard Lumber Company

GEORGIA

Child Hygiene Act Adopted—A resolution creating a state agency to cooperate with the federal department of child hygiene for the expenditure of $19,530 apportioned Georgia under the provisions of the Sheppard-Towner Maternity Bill, was adopted July 18, by the Senate

ILLINOIS

Personal—Dr Otto E Fink, Danville, has been appointed visiting oculist and aurist to the Danville Branch of the National Home for Disabled Volunteer Soldiers

Hospital News—A $250 000 addition to Our Saviour's Hospital at Jacksonville is being completed An additional $50 000 is now being secured to purchase equipment and furnishings for the hospital——The cornerstone for the Eastern Star Home for the Aged to be erected in Rockford, was laid recently at appropriate exercises The new building is being erected at a cost of $175,000 and will be completed by September 15——Plans have been completed for the new hospital to be erected at Harrisburg at a cost of $75,000

Conference on Diphtheria Control—August 2, about thirty public health officials, including the director of the state department of public health, the health commissioner of Chicago and a number of local health officers met and discussed diphtheria control measures Under the chairmanship of Dr Herman N Bundesen the deliberation centered particularly around the use of toxin-antitoxin as an immunizing agent and the question as to whether or not a state-wide campaign in favor of general inoculation against diphtheria among children of preschool age would be advisable

Successful Milk Conference Held—Satisfactory progress was made at a conference held in Chicago August 1, between more than 100 representative Illinois milk producers and milk dealers and public health officials in about equal numbers Those present unanimously adopted a motion favoring a state law that would guarantee perfectly safe milk supplies for municipalities They also accepted with slight alterations an ordinance drafted and presented by the state department of public health as a model ordinance for adoption generally by municipalities This ordinance was drawn up with the idea of especially stimulating pasteurization As a means toward bringing about practical results from the conference the permanent chairman, Dr W A Evans, Chicago, was authorized to appoint three committees The duty of one will be to edit and publish the minutes of the meeting, of another, to promote the adoption of the ordinance by municipalities, of the third, to render in the course of one or two years a report on practical legislative measures

INDIANA

Typhoid Fever Compensable—The appellate court of Indiana has decided that typhoid fever contracted by an employee through drinking impure water furnished by the employer, is an injury" by "accident arising out of and in the course of the employment" under the Workmen's Compensation Act, and as such is compensable

IOWA

Eradication of Hay-Fever—Under the direction of Prof Clifford H Farr of the botany department of the University of Iowa, Iowa City, the city officials and residents have cooperated in a campaign to rid the city of ragweed

Hospital News—The detention hospital of LeMars was recently destroyed by fire——A new tuberculosis hospital was recently opened for Henry County in Des Moines——The new Military Surgeons' Club of Iowa has approved plans for building a memorial hospital in Fort Dodge in honor of the physicians, nurses and enlisted men of the medical service who lost their lives during the World War Plans call for a $40 000 structure, which will be started as soon as funds are available, which it is expected will be raised by popular subscription The hospital would be used during camp periods of national guards and by the general public in time of disaster or epidemic——The new east wing of the Jennie Edmundson Memorial Hospital Council Bluffs, erected at an approximate cost of $200,000 was formally dedicated recently It is four stories high with an observatory attic and a physicians' clinic room overlooking the surgical laboratory below Dr Donald Macrae leader of the Mobile Hospital No 1 in France, during the World War, delivered an address——The Allen Memorial Hospital, Allen Heights is rapidly progressing, and it is expected to be finished this year——A new $120,000 building will be erected at St Luke's Hospital Mason City

KENTUCKY

Hospital News—A new tuberculosis hospital will be erected at Waverly Hills in the near future——A new hospital will be erected at Maysville at an estimated cost of $35 000——The Harrison Memorial Hospital, Cythiana, was dedicated, July 4——A new hospital is practically completed at Whitesburg

LOUISIANA

New Dean for Tulane—The board of administrators of Tulane University, July 31 elected Dr Charles C Bass as dean of the School of Medicine

New Baptist Hospital—The Home Mission Board of the Southern Baptist Association has been instructed to build a general and research hospital in the city of New Orleans, to cost approximately $2 000,000

Appeal for Hospital Funds—The Charity Hospital, New Orleans, has requested a bond issue of $300 000, which Governor Parker vetoed as unconstitutional after the bill had passed the Senate and the House, recently The money is needed for an additional building for interns and also for nurses The interns' home was erected thirty-three years ago to house eighteen interns There are now thirty crowded in, and others have to seek accommodation elsewhere The nurses' home is seventeen years old and was originally intended to accommodate 102 nurses The minimum requirement now is space for 200 nurses

Smallpox in Oil Camps—The existence of smallpox in oil regions of Louisiana has caused Dr Dowling of the state board of health to issue warnings that all persons whose business takes them to these regions should be vaccinated One hundred and fourteen cases occurred at Haynesville it was stated in the report of communicable disease for the week ending July 22 Dr Dowling states that for several months, despite all efforts smallpox has been increasing in the northern section of the state In the oil field regions, owing to the fact that there has been such a rapid increase in the population that sanitation cannot keep pace with it typhoid is very prevalent

MARYLAND

Personal—Dr Valcoulon L Ellicott Baltimore has been appointed epidemiologist in the New York State Department of Health Dr Ellicott is a graduate of the medical school and the school of hygiene and public health of Johns Hopkins University——Dr Joseph Colt Bloodgood, Baltimore, was the guest of honor at a luncheon given by Dr T C Coffey to thirty-five physicians at the University Club, Portland, Ore, July 13

MASSACHUSETTS

Personal—Dr Walter B Cannon, professor of physiology at the Medical School of Harvard University, Boston gave a Mayo Foundation lecture at the Mayo Clinic, June 20 His subject was "The Effects of the Emotions on the Body"——Dr Reid Hunt of the Harvard Medical School Boston, has been elected on the editorial board of *Physiological Reviews* for 1922

Physician Sentenced—About a year ago, the Massachusetts State Board of Registration in Medicine revoked the license of Dr Charles T Granstein, Brockton, the charge preferred being criminal assault and the performing of a criminal abortion Now it is reported that Dr Granstein has been sentenced to serve a term of from five to seven years in the state prison on the charge of criminal assault The charge of performing a criminal abortion was placed on file

Mickle Fellowship for Dr Cushing—The faculty of medicine of the University of Toronto Canada, has awarded the Charles C Mickle fellowship of $1 000 to Dr Harvey Cushing of Harvard University This fellowship is awarded to the member of the profession "considered to have done most during the preceding ten years to advance sound knowledge in medical art or science" Dr Cushing accepted the award but instead of keeping the money has requested the university to send one of its graduates to work with him for one year He will give the money to the selected graduate

MICHIGAN

Physician's Fees—It is announced that a uniform fee has been adopted by all members of the Gogebic County Medical Society

Malaria Campaign—The state health commissioner has instituted a malaria campaign to prevent an increase of this disease, which attacked more than 150 people last year It is feared that the anopheles mosquito has survived the mild winter and will appear in large numbers again this year

Chiropractors Pay Fines—At the annual meeting of the Michigan Chiropractic Association, a resolution was passed unanimously pledging its members to serve jail sentence in the event of conviction under the Michigan Medical Act and to refuse to pay fines even if the court allowed an option in the case Nevertheless within a week *some half dozen* of the members of the association paid fines of $200 each rather than serve six months in the house of correction

Supreme Court Upholds Licensing Board—A chiropractor convicted of practicing medicine without a license at Cadillac last December appealed the case to the supreme court on the following contentions (*a*) That certificate of registration" and 'license used in the act were not synonymous terms, therefore two offenses were charged in the information, (*b*) that the drugless section of the act is discriminatory, unreasonable and arbitary, and, therefore, unconstitutional and void, (*c*) that the court was not justified in directing a verdict of guilty when the facts in the case were not disputed and, therefore, held to be admitted The court held unanimously against the contentions

Health Clinic Work Enlarged—The clinic division of the state department of health, and the lecturing, moving picture and exhibit units will combine and tour the state, conducting health institutes, it was announced recently by Dr R M Olin In addition to the children's and tuberculosis divisions which formerly comprised the clinic, an infants' unit, two lecturers and an organizer will be included The increase in personnel will make possible more intensive work in counties visited Clinics will be held in the larger towns and county seats while lecturers will visit every community Health institutes will be held in any county on request of individuals or organizations The personnel of the newly organized staff are Dr Frank Rose head of the children's unit, Dr Charles A Wilson head of the tuberculosis division, Dr Florence Browne, head of the infant unit, and Dr Frank Poole lecturer

MINNESOTA

Fund to Improve Auto Camps—An additional appropriation of $15,000 with legislation to guarantee its effective expenditure, will be asked of the next legislature by the state board of health for the supervision of the state tourist camps The importance of extreme care in sanitation matters

among tourists is shown in a report covering the period from 1913 to 1921, showing that 365 cases of typhoid fever in Minnesota were contracted outside the state while the victims were on vacation trips

Hospital News—A new $11,000 hospital for contagious diseases will be erected in Owatonna Construction will be commenced shortly——An addition will be made to the Naeve Hospital at Albert Lea The addition will be a two-story and basement building of brick and concrete——Plans have been completed for the Bethany Home for Children, a new fireproof institution for West Duluth The building will be erected at a cost of $80 000——A campaign for $100,000 to establish a Methodist hospital at Wadena is under way

Personal—Dr Lawrence F Sutton, Mazeppa, and Dr William F Wilson, Lake City, were recently elected president and secretary, respectively, of the Wabasha County Medical Society——Dr Charles L Scofield, Benson, has been elected president of the state board of health to succeed Dr Egil Boeckmann St Paul, who resigned, July 18, following his appointment to the board of regents of the University of Minnesota Dr Solon Marx White, Minneapolis, was elected vice president of the board succeeding Dr Scofield

MISSISSIPPI

Hospital Plans—The contract has been let for the erection of the new East Mississippi Charity Hospital at Meridian, for $78 000 The institution will be erected on a 19 acre site given by the state——A deed for the property of the Mississippi Centennial Exposition Company at Gulfport has been given to the United States government, which will establish a $1,000,000 hospital on the site——Ground has been broken for the new Martha Ross Hospital at the Mississippi Woman's College at Hattiesburg of which Dr J L Johnson is president

New School Health Rules—At a meeting of the state board of health in Jackson the following rules and regulations on sanitation were adopted for the schoolhouses of the state

Heating light and ventilation All schools and colleges in Mississippi shall be properly heated and lighted and be provided with proper methods of ventilation sufficient to furnish each pupil an adequate amount of fresh air The air in any schoolroom shall be kept at all times in a wholesome condition and exercises shall be suspended as often as necessary in order to remove the air from any room, the ventilation of which is defective The schoolhouse shall provide for admission of light from the left or from the left and rear of the pupils and the total lighting area shall be at least 20 per cent of the floor space The temperature in the school shall be maintained as nearly as possible at from 68 to 70 F No schoolroom shall be swept until all exercises have been completed for the day and no school shall be swept during the hour just before school opens

Drinking water Abolition of the common drinking cup and proper care must be taken by the school trustees to prevent contamination of the water supply of the school

MISSOURI

Farewell Banquet for Physician—The Pettis County Medical Society gave a farewell dinner in honor of Dr Everett A Wood, Sedalia, July 6 Dr Wood has practiced in Sedalia for twenty-seven years and was the founder of the former Maywood Hospital He has retired from practice and will reside in Hemet, Calif, in the future

NEW HAMPSHIRE

Hospital News—Plans have been completed for the erection of a $100,000 addition to Laconia Hospital Laconia——The contract has been let for a new $100,000 building for the New Hampshire Memorial Hospital for Women at Concord, of which Dr Marion L Bugbee is superintendent

NEW MEXICO

New County Physician—Dr Edmund M Clayton, Albuquerque, has been appointed physician to Bernalillo County to succeed Dr John F Pearce

NEW YORK

Club to Conduct Child Health Work—The City Club of Albany has inaugurated a child health campaign for Albany County The campaign will include health consultations for rural districts The healthmobile of the state department of health will tour the country in advance of the consultations

Personal—Dr Frankwood E Williams has been appointed medical director of the national committee for mental hygiene to succeed Dr Thomas W Salmon who resigned in January to become professor of psychiatry at the College of Physicians and Surgeons of Columbia University——Dr Harry E Plotz, *who is engaged in relief work in Poland*, sailed for Europe, July 22——Dr S Josephine Baker has been appointed a member of the health committee of the League of Nations Dr Baker, who is director of the Bureau of Child Hygiene, New York City, recently completed twenty years of service with the city health department——Dr Joseph A Blake and Dr J Bentley Squier sailed for Europe on the *Aquitania*, August 2

Course of Instruction in the Hygiene of Maternity, Infancy and Childhood—The state department of health, through its division of maternity, infancy and child hygiene, plans an extension course in the hygiene of maternity, infancy and childhood, for public health nurses The course will consist of some study, lectures and demonstrations at a central place to be selected for each sanitary supervisor's district, and probably actual practical work at a maternity center, probably in New York City *There will be no charge for the course* Applications should be addressed to the Division of Maternity, Infancy and Child Hygiene, State Department of Health, Albany The general correspondence course will be given by New York University and Bellevue Medical School

New York City

Public Safety Campaign—A broad and intensive campaign for public safety will be begun here shortly by the Safety Institute of America, under the leadership of Judge Elbert H Gary Invitations have been issued to eighty-seven leaders in civic, industrial social and administrative circles to aid him It is hoped to duplicate in this city the work that has been so successful in various industrial plants, where accidents have been materially reduced

Health Center Fights Medical Frauds—The East Harlem Health Center, *which is sponsored by the New York chapter* of the American Red Cross, cooperating with twenty-one other health and social agencies, has initiated a campaign to drive out of the neighborhood all quacks and illegal practitioners of medicine The *Medical Week*, the official organ of the Medical Society of the County of New York, states that the society will support any movement to clean up in similar fashion any part of the city, and if the effort in the East Harlem district is successful it would like to see the Red Cross extend this activity to the entire city

NORTH CAROLINA

Illegal Practitioner Extradited—It is reported that George W Titman of Salisbury, charged with practicing medicine without a license, was tried in Rowan County court, July 21 and given one year in the chain gang Sentence was suspended twenty-four hours to allow to him leave the state of North Carolina for good

Aid Asked to Negro Industrial School Hospital—Announcement has been made that a hospital for colored people has been established in connection with the industrial school at Laurensburg and that aid is required for developing the hospital and the library in connection with the nursing school, as well as for the purpose of obtaining much needed hospital equipment, including a sterilizer, a microscope and clinical laboratory apparatus Small gifts of either money or equipment may be sent to Professor McDuffie, care of the Laurensburg Normal School, Laurensburg

OKLAHOMA

Hospital News—Plans are being made for the erection of a union hospital at Duncan——The board of commissioners of Carter County have appropriated funds for the erection a new county hospital at Ardmore Plans are being prepared for the new structure, which will cost approximately $150,000——Bids were asked, July 16 for five buildings, including a nurses' home and vocational building for the Oklahoma Soldiers' Memorial Hospital, to be erected at Honor Heights Muskogee, by the Soldiers Relief Commission of the State of Oklahoma The Soldiers Tubercular Sanatorium, erected by the relief commission at Sulphur, will be opened to the public the first week in August An outpatient department will be opened at the same time The commission operates another hospital at Guthrie

PENNSYLVANIA

Philadelphia

Support Urged for Medical Research—Dr Paul A Lewis director of the laboratory of the Henry Phipps Institute, has issued a pamphlet urging the appreciation and support of the

public in the interest in research of the medical school in this city that the cultivation of medical research may mean better medical service

RHODE ISLAND

Personal—Dr Asa S Briggs Ashaway, has been appointed head of the Rhode Island State Home and School, by the Penal and Charitable Commission Providence Dr Briggs is president of the Washington County Medical Society and associate editor of the *Rhode Island Medical Journal*

Illegal Practitioner's License Revoked—The secretary of the state board of health states that at a meeting of the board, July 13 it was voted to revoke the license of Raymond E Connors who claimed to be a graduate of Tufts Medical College, 1920 Connors presented proper credentials as to his graduation, but these credentials, it is reported, were obtained by fraud

SOUTH CAROLINA

Chiropractor Convicted—It is reported that I E Johnson chiropractor of Spartanburg was convicted on a charge of practicing medicine without a license and was sentenced to serve ninety days in the chain gang

SOUTH DAKOTA

Health Officer Appointed—Dr John R Westaby, Madison has been appointed health officer of Lake County to succeed the late Dr John Duff who had occupied that position for the past twenty-five years

TENNESSEE

Appointments to Veterans' Hospital—Dr Chester D Allen has been appointed officer in charge of the U S Veterans' Hospital No 88 Memphis formerly the Methodist Hospital Dr John W Tippie is executive officer or secretary, and Dr A G Holland has been appointed assistant surgeon and staff officer

TEXAS

Hospital News—Final plans for the Potter County Hospital to be erected at Amarillo at a cost of $250,000, have been accepted by the county commissioners——The Frances Ann Lutcher Hospital, Orange will open a free medical and dental clinic at that institution August 1 This has been made possible by the generosity of Mr and Mrs Luther Stark in furnishing the rooms and equipment A full time social service worker will be employed in this work The physicians of the Orange County Medical Society have signified their willingness to devote a portion of their time to these clinics——A new nurses' home will be erected at Dallas for St Paul's Sanatorium with accommodations for 150 nurses——The Knights Templar Hospital at the Home for Aged Masons Arlington is building a twelve bed addition to its sixteen bed plant with an additional capacity, in emergency, of about twenty beds, forty-eight in all

WASHINGTON

Plaintiffs Win from Surgeons—The Yakima *Herald* states that Mr and Mrs O M Jones in their $7 500 malpractice suit against Drs Charles A Riemcke, Yakima and William M Munsell, Grandview, were awarded $5,000 damages by a superior court, June 21

WISCONSIN

Physician Fined—The *Wisconsin Medical Journal* states that Dr Oscar Schnetzky Princeton, was fined $400 and costs of $200 in the circuit court recently, for illegal transportation and sale of liquor

Personal—Dr and Mrs Archibald O Shaw, Ashland have recently returned from a trip to Australia, New Zealand and the South Sea Islands——During the absence of Dr Clarence A Baer who is taking a course of study in Paris Dr A A Evans is acting as chief of staff of the Milwaukee Children's Hospital——Dr Karl Doege Sr and Dr Karl Doege Jr Marshfield, are leaving for one year's trip in Europe——Dr Carroll D Partridge formerly in charge of the Milwaukee health department laboratories and recently health commissioner of Wausau has returned to Milwaukee to take charge of the clinical department of the Seelman laboratories of which Dr John J Seelman is director

Society News—The annual meeting of the Milwaukee Neuro-Psychiatric Society was held June 22 in the Milwaukee Athletic Club Dr Lorenz director of the Wisconsin Psychiatric Institute spoke on Treatment of Central Nervous Syphilis by New Remedies"——Dr Harry B Moe Blanchardville and Dr Peter W Leitzell, Benton, were elected president and secretary, respectively of the Lafayette County Medical Society, at the annual meeting June 27——At the meeting of the Dane County Medical Society in Stoughton June 15 it was voted to close offices Saturday afternoons——At a special meeting of the Marinette County Medical Society Dr Arthur J Patek, Mt Sinai Hospital, Milwaukee, was the guest of honor, and spoke on the University of Wisconsin extension service

Maternity and Infant Welfare—The state board of health will establish a maternity and infant health center, with a physician and a nurse to manage its affairs, in every county that provides rooms and equipment, under plans announced for administration of the Sheppard-Towner Maternity Bill Under this legislation Wisconsin receives $10 938 for the year ending June 30 1922, and $27,751 for the year ending June 30 1923 In these health centers, complete physical examinations will be made for children under school age and expectant mothers Little mothers' classes, to teach girls how to care for babies will be promoted, together with illustrated lectures and moving pictures Personnel to carry out the provisions of the act will consist of one physician to visit health centers six or eight part-time physicians in various localities and ten public health nurses to organize the health centers and to do follow up work in each county

WYOMING

Many Cases of Spotted Fever—The state board of health announces that there were fifty-four cases of Rocky Mountain spotted fever reported during the last three months, and fourteen deaths a mortality rate of about 26 per cent This year the secretary of the health board states that the disease has occurred in both sexes and at practically all ages, the youngest victim being 5 years of age

PHILIPPINE ISLANDS

Independence Mission—Drs Justo Lukban, Antonia G Sison Jose Albert and Juan Nolasco sailed for the United States recently, having been appointed members of the Second Philippine Independence Mission Dr Lukban was mayor of Manila at one time while Drs Sison and Albert are members of the medical faculty of the University of the Philippines Dr Nolasco is a member of the Philippine House of Representatives

Hospital, Dispensaries and Health Centers—The Philippine Islands Health Service plans to build hospitals in every provincial capital and health centers in largely populated districts Provision is already made for such hospitals at Laoag and Sorsogon and will be made later for Iloilo Negros Occidental and Negros Oriental It also plans to provide towns and the larger villages with well-stocked dispensaries Several clinics will be conducted in the provinces, like the clinics on yaws and tropical ulcers, conducted in Parñaque and Pangasinan in 1921 and are now being conducted at Laoag——A hospital for women and children will be erected at San Fernando, for which land has already been purchased

CANADA

Public Health Campaign—Under the direction of the Royal Sanitary Institute of London England a special health week will be conducted in Calgary Alta, October 8-14

Society Changes Name—At the annual meeting of the Canadian National Council for Combating Venereal Disease, the name was changed to the Canadian Social Hygiene Council The new offices of the organization will be 207 York Building, Toronto

New Medical Society—At a meeting of physicians from the provinces of Quebec and Ontario at Toronto in June, the Canadian Society for the Study of Diseases of Children was organized Physicians in other branches of medicine whose work has a close relation to the field of pediatrics and child welfare will also be eligible for membership Officers elected were president, Dr Alexander B Blackader Montreal, vice president, Dr Alan G Brown Toronto, and secretary-treasurer Dr Edward A W Morgan, Toronto

Health Officers' Association—The eighth annual meeting of the Health Officers Association of Ontario was held, recently in Toronto, under the presidency of Dr John W Shaw of Clinton Dr Milton J Rosenau professor of medi-

cine and hygiene at Harvard University Boston read a paper on 'Food Poisoning" The following officers were elected for 1922-1923 president, Dr Douglas V Currey St Catharines, vice presidents, Drs Theodore Lomer, Ottawa and Theodore J Park, Amherstburg, and secretary, Dr J J Middleton

Cooperation of Health Units—A round table conference of voluntary agencies was held during the week of the Canadian Public Health Association meeting in St John, presided over by Dr Roberts, who explained that the object of the meeting was to coordinate the work of the various organizations and to attempt to make arrangements which would prevent the possibility of overlapping in time, energy and expense Representatives from the following organizations attended the meeting Canadian Red Cross Society Col Nasmith, C M G, Victorian Order of Nurses, Department of Health, Ottawa, Dr Helen MacMurchy and Dr John J Heagerty, Canadian Medical Association Dr Hutchinson, Canadian Public Health Association, Committee on Policy, National Committee on Mental Hygiene, Dr William H Hattie, National Council for Combating Venereal Disease Dr Gordon A Bates, Canadian Association for the Prevention of Tuberculosis, Dr Robert E Wodehouse, Provincial Medical Officers of Health of Nova Scotia, Dr H A Chisholm, Alberta, Dr Laidlaw, New Brunswick, Dr G G Melvin, Ontario, Dr R R McCleanahan, Imperial Order, Daughters of the Empire, Miss Liggett, Women's Institutes, and Public Health Nurses

Hospital News—The Quebec government has given the Laval Hospital $100,000 with which to erect a new wing for tuberculous children Work on this structure will be started soon——A new orphans' home will be erected at Kitchener Ont, this year, at a cost of about $70 000 Plans have been drawn and approved for the institution——The Sisters of Moncton New Brunswick, are to have a new hospital in that city it is announced The institution will be known as the Catholic Hospital and will be erected at a cost of $500,000 ——The Misericordia Hospital, Edmonton, Alta, will have a $250 000 extension and will increase its capacity seventy beds Construction work will be started this summer——The Toronto Department of Health is building a nurses' home in connection with the Riverdale Isolation Hospital The plans call for a building that will house 150 nurses It is expected that it will be ready for occupancy in the autumn——The new Ontario Hospital at Whitby, for the mentally afflicted, was officially opened recently by the Premier of Ontario—— According to an emergency measure passed by the board of health, the medical ward of the General Hospital Hamilton, Ont, will be converted into an isolation hospital for poliomyelitis, which is very prevalent in that city

GENERAL

Death of Japanese Chemist—Dr Jokichi Takamine, known for his work on diastatic ferments and the active principles of the suprarenal glands, died in the Lenox Hill Hospital New York, July 22 Dr Takamine was born in Tokyo in 1854 and graduated in chemical engineering from the University of Tokyo at the age of 25

Warning—Dr Oscar O Miller, Louisville, Kentucky, writes that a man calling himself Frank Wayne is imposing on the medical profession in various cities As soon as he arrives in the city, he goes to one of the prominent throat specialists telling him he is suffering from tuberculosis and is endeavoring to secure funds to go West He evidently has some slight affection of the larynx as he invariably secures a letter of recommendation from the physician certifying that he has tuberculosis of the larynx He takes this to a notary public and has it sworn to and then has it approved by the chief of police Armed with this, he solicits funds and then moves on to another city

Congress of French-Speaking Physicians of North America—The *Union Medicale du Canada* for August brings the details of this meeting which is to be held at Montreal in September It is the seventh Congres des medecins de langue française de l'Amerique du Nord and the general secretary is Dr St-Pierre, 703 rue St-Hubert, Montreal The Paris faculty of medicine has appointed Professor Achard as its representative at the meeting He is professor of pathology and general therapeutics A party of French physicians also are planning to attend the meeting The main subjects appointed for discussion are toxic goiters, vaccine therapy, and expert medical testimony in workmen's compensation cases

Public Health Service Reserve Officers Meet—The Association of Reserve Officers of the United States Public Health Service held its annual meeting in Washington, D C, during the last week in July This association comprises in its membership doctors who are engaged in hospital work in the Veterans' Bureau and in the Public Health Service All members of the association are themselves ex-service men The association has for its purpose the advancement of medical and hospital work of the government, the care and treatment of ex-service men and the welfare of the doctors who are connected with that work Because of inadequate legislation, it is claimed the status of the reserve officers in the public health service is uncertain It was stated that the functions of the public health service cannot be utilized to the fullest degree unless the medical personnel composing it is established on a sound basis The activities of this association will continue to be employed to place the reserve medical officers of the public health service on a more stable basis and one commensurate with the increased responsibilities and duties in the care and treatment of ex-service men but will also continue to be employed in the regular work of the United States Public Health Service Unless proper inducements and ample provisions are made for the medical officers in the Public Health Service permanently to continue in their work, it was said the medical and public health work of the service must necessarily suffer because trained and well qualified doctors will not be attracted to the service or remain permanently in it The following officials were elected by the association of reserve officers for the ensuing year president Dr T H Scott, treasurer Dr P S Rawls, secretary Dr C T Messner 3224 Northampton St N W, all of Washington, D C

Reported No Action on "Filled Milk" Bill—As a result of the testimony presented before the subcommittee of the Senate, of which Senator McKinley of Illinois is chairman it is probable that no action on the Voigt Filled Milk bill will be taken by the Senate committee at this session of Congress The meetings of the committee this week were for the purpose of hearing those who opposed the passage of the measure The charge was made before the committee that behind the Voigt bill is a desire to injure the business of one company which manufactures filled milk Numerous witnesses appeared before the committee including Dr E V McCollum of Johns Hopkins University, who stated that filled milk is not deleterious, that it is a healthful product provided it is used in such combination with other foods that it would not interfere with a satisfactory diet, that there was nothing poisonous about it Under examination he made the statement that skimmed milk which is used in making filled milk, contains all the food value of whole milk except that it has less of the so-called 'vitamin A" Dr Eugene Aggers, an economist of Columbia University, New York, told the committee that filled milk makes a real economic contribution to the country giving an outlet for a tremendous amount of skimmed milk, a valuable food which otherwise would be lost He insisted that in the long run the filled milk industry would be a benefit to the dairy industry and would tend to stabilize the latter Among others who testified were Dr Joseph Brenneman, chief of the medical department Children's Memorial Hospital, Chicago, Dr Philip M Stimpson, New York, Dr A J Carlson, Chicago, Prof O Erf, in charge of dairying, Ohio State University, Dr Charles J Brinn medical inspector of baby health stations, New York, Dr Casimer Funk Columbia University, New York, Dr Wm E Ramsey Perth Amboy, N J

LATIN AMERICA

New Porto Rican Journal—Physicians of the Mayaguez and Western Polyclinic, Mayaguez, Porto Rico, have begun the publication of a monthly entitled, *El Policlinico* The editor is Dr P Perea Fajardo The journal contains an average of twenty pages

Tribute to an Argentine Physician—An unusual tribute was paid to Dr Emilio R Coni, the Argentine sanitarian when a number of the most prominent physicians of São Paulo Brazil, sent a letter endorsing his appointment as head of the Argentine Public Health Service

Cuban Delegates to the Brussels Tuberculosis Congress—At the Third International Antituberculosis Conference held at Brussels, July 11-13, the Cuban government was represented by the following delegates Drs Julio Arteaga, Eugenio Albo, Fernando Remsoli and F Javier de Velasco

Mexican Society Appoints Officers—The medical society of the state of Yucatan has appointed the following officers for the year 1922-1923 president Dr Narciso Souza, vice president, Dr Abelardo Lara, secretary, Dr Silvio Hernandez, subsecretary, Dr Eugenio Paloma treasurer, Dr Alberto

Correa undertreasurer, Dr Carlos Casares, editors, Drs Jose E Contreras and Romualdo Manjarrez The headquarters of the association are at Merida

Tribute to Dr Risquez—The *Gaceta Medica de Caracas* for April just received, relates that the fiftieth professional anniversary of Dr F A Risquez of Caracas was to be celebrated by the Academia Nacional de Medicina, April 27, and a gold medal presented to him He was president of the Academia at one time, and has been rector of the university director and professor, and has published a number of important communications, especially on tropical medicine One of his latest articles was summarized in THE JOURNAL, Oct 22, 1921, p 1374

Argentine Hospitals—According to information received from Argentina there are now 243 hospitals and dispensaries, supported either wholly or partially by the Argentine government These hospitals are divided as follows Buenos Aires (city) 38, National Territories, 7, Buenos Aires Province 75, Santa Fe Province, 17, Entre Rios Province 22, Cordoba Province 19, Tucuman Province 8, Corrientes Province 16, Mendoza Province 11 Santiago del Estero Province 4, Salta Province 8, San Luis Province, 7, San Juan Province 3 Catamarca Province 6 La Rioja Province, 2, and Jujuy Province, 5 The three largest hospitals in Argentina are Las Mercedes, 1,672 patients, Francisco J Muñiz, 1,000 patients Torcuato de Alvear, 1391 patients

Personal—Professor Andreatti of the University of Vienna has given at the Asuncion Medical School, Paraguay, a series of stereopticon lectures on tuberculosis its prevention and treatment——Dr R Vega Gomez, Jr, of San Salvador El Salvador has been sent by the Salvador Medical School and the Rosales Hospital to take a course in roentgen-ray work in a New York school——Dr Ramon Ruiz Arnau who has been visiting in Porto Rico for a few weeks, has returned to the United States——Dr Jose Gomez Brioso of San Juan Porto Rico has left for a month's trip to the United States ——The *Repertorio* of Bogota mentions that Dr C Torres Umaña, the pediatrician, has left for a trip to the United States and Europe Dr Luis Zea Uribe professor of bacteriology, has left for Germany and Dr Rafael Meoz and his wife are making a tour of Europe——The *Semana Medica* states that Prof V Delfino of Buenos Aires has been appointed correspondent of the Italian Institute for Hygiene and Public Assistance which was described in these columns, July 15 page 226

FOREIGN

Cancer Institute in India—It is reported that plans have been made to establish a cancer institute at Bondoeng, India It is to be connected with a hospital and medical laboratory already in operation there

French Donate to Pasteur Celebration—The French senate has unanimously voted 2 000 000 francs to observe the one hundredth anniversary of the birth of Louis Pasteur The senate in voting the appropriation described Pasteur as the Symbol of French science '

Women in Japanese Medical Colleges—The Kyushu Imperial University Fukuoka Japan, has recently opened the departments of medicine and engineering to women students Women are barred from attending the University of Tokyo and most of the other colleges of the better class

Antituberculosis Work in Switzerland—The Swiss government has recently granted an appropriation of 1,000 000 francs for antituberculosis work in that country during the current year A marked increase in tuberculosis has taken place in Switzerland since the war, the *Bulletin des Eidgenossischen Gesundheitsamtes* announces

Scientific Museum to Be Opened—A petition, which was presented at the last session of the lower house, Japan, regarding the establishment of a fully equipped, up-to date scientific museum was approved It was stated by the petitioners that scientific knowledge among the Japanese is far below that of Europeans and Americans

Medical Periodicals in Russia—This year has witnessed the birth of a number of medical journals in Russia Copies have been received of the *Meditsinskaya Gazeta* of Moscow the *Meditsinskii Journal* of Kiev the *Klinitcheskaya Meditsina* of Moscow and the *Russkii Ophthalmologitcheskii Journal* of Moscow Syphilis anaphylaxis, protein therapy and percussion and auscultation of the kidneys are the main subjects discussed

Insanity Pleaded for Criminals—The lord chancellor of England has appointed a committee to report on the changes which are desirable in the existing law practice and procedure relating to criminal trials when a defense of insanity is raised The members of the committee are Sir Richard Muir, Sir Ernest Pollock, Sir Archibald Bodkin, Sir Ernley Blackwell, Sir Leslie Scott, Sir Herbert Stephen and Sir Edward Troup

Hospital Cooperation—At the National Conference of Local Voluntary Hospital Committees held recently in London, mutual benefit and cheaper working for a system of hospitals conducted on national cooperative lines was discussed It was stated that if stores medicines drugs equipment, etc were purchased on a cooperative basis, it would do much to lessen expenditure each hospital or unit reaping the advantages of joint purchases

British Medical Women's Federation—The fifth annual meeting of the federation was held in London May 6 under the presidency of Dr Mary Sturge The following officers were elected for the ensuing year president, Lady Barrett, M D, vice presidents Miss Frances Ives and Dr Mabel Ramsay honorary treasurer Dr Louisa B Aldrich-Blake, honorary secretary, Dr F M Dickinson Berry and medical secretary, Dr C Violet Kelynack

New Japanese Maternity Hospital—The Charity Maternity Hospital at Shibuya was formally opened June 10 This institution was financed and equipped by the Japan Red Cross Society The minister of war the mayor of Tokyo and Mr Hiraiama president of the Japan Red Cross Society were among the guests present After the reading of the congratulatory addresses, the building was declared formally open and the general public was admitted to inspect it

Polish Graduates Visit America—Six medical students from Polish universities have been selected to come to America to finish their studies, preparatory to entering the Institute of Hygiene at Warsaw which was established recently by the Rockefeller Foundation After a competitive examination under the auspices of the Polish ministry of health, Prof Selskar Gunn representing the Rockefeller interests made the final selection An endowment fund of $250 000 was given by the Rockefeller Foundation to establish this institute

The German Law on Methyl Alcohol—The newly enacted law on the brandy monopoly in Germany forbids the use of methyl alcohol not only in food and beverages but also in perfumes and articles for cleansing caring for or dyeing the skin, hair nails or mouth This prohibition includes wood spirit The previous exemption from tax of alcohol and ether designed for hospital and other medical purposes has been rescinded This action is exciting much unfavorable comment Certain medical organizations have already protested to the government

Maternity and Unemployment—Both Spanish Houses of Parliament have approved the ratification of the Maternity and Unemployment conventions adopted by the first International Labor Conference held in Washington in 1919 The Maternity Convention states that a woman shall not be permitted to work six weeks before and six weeks after childbirth, and shall, during that period be paid benefits sufficient for the healthy maintenance of herself and her child In addition to this she is entitled to free attendance by a physician or a certified midwife

Course for Physicians in Physical Training—Our German exchanges mention that this week there is being held at Berlin a graduate course on the importance of physical exercise It was organized by the committee in charge of medical graduate courses and the German Hochschule fur Leibesubungen, and is in charge of Prof A Bier The aim is to give physicians a better insight into the nature and system of gymnastic exercises and sports As these can be learned best by actual experience the course includes three hour exercises daily, besides three or four hours of lectures The course is to last thirteen days and the expense for the whole with board and lodging is stated to be 955 marks

Medical Work in Siam.—Dr George McFarland emissary to the United States from the king of Siam, has been on a short visit to his relatives in this country and will return to Siam in October Dr George McFarland who is a graduate of the College of Physicians and Surgeons Baltimore is dean of the Royal Medical College, Bangkok (University of Chulalongkoran) A five-year course in medicine is given with a sixth year in internship and practical experience at the college which at present has 250 students Dr McFarland states that a flying service is attached to the medical department of the university in Bangkok, which is named after the late king, who donated the land and endowment fund Dr McFarland is not a missionary to Siam but a representative of the Siamese government

University News—Sir George Murray recently opened the new Darling Building at the Medical School of the University of Adelaide, Australia This building will serve the department of the fundamental sciences of the medical school as formerly there was insufficient accommodation for the teaching of anatomy physiology and pathology The family of the late John Darling contributed £15,000 toward the erection of the building In declaring the building open, Sir George gave an account of the development of the medical school from the creation of a lectureship in physiology in 1882 to the establishment of a chair of anatomy in 1884, through the period when medical students received the complete course of training, up to the present extension of the school The library of the Darling Building will accommodate the library of the South Australian branch of the British Medical Association, as well as the medical library of the university

Three Years of the Swedish Antivenereal Disease Legislation—The *Hygienisk Revy* devotes a long editorial to the workings of the law which has now been in force for three years The number of cases of venereal disease has been reduced by 60 per cent during this period in Stockholm and by 40 per cent for the whole of Sweden Dr Karl Marcus in announcing these figures remarked that the legislation is not altogether to be credited with this improvement, as the hard times have something to do with it During periods of prosperity, the venereal diseases increase in frequency, and they drop off during financial depression However, during this three year period, the reduction in the number of cases of venereal disease at Copenhagen and at Christiania has been only 10 per cent The editorial adds that both Norway and Finland are planning similar legislation, and even in Germany, parts of the Swedish law have been taken as a model This law was discussed with great interest at the Red Cross Conference at Copenhagen in May The objection is made to the law that it does not suppress prostitution, but the editorial reiterates that this is a social, not a medical question, and the law is planned from the medical standpoint Venereal disease in sailors is a question which demands international cooperation the editorial adds In Sweden the seamen get free medical attention but this is not the case everywhere

Graduate Courses in Western Europe—Nearly all the European countries are busily organizing graduate courses in all kinds of specialties, in hygiene, general medicine, diagnosis, etc, and they all welcome American physicians with special cordiality It is impossible to call attention to all the courses separately, and the American University Union has been founded partly to supply information in regard to graduate and undergraduate work for all applicants The office in England is 50 Russell Square, London and Prof J W Cunliffe of Columbia University, New York is the secretary of the board of trustees in the United States The office of the continental division is at 1 rue de Fleurus Paris There is also a university bureau of information for medical affairs at Paris which is open every afternoon with an English speaking official in charge 65 rue de Miromesnil Paris A practical guide has been published containing the data useful for medical men, and information as to special graduate courses at any time is freely available on demand Italy also is offering numerous courses, and Germany has a regular well established system for graduate courses which brings them within the reach of every practitioner in the country at some time during the year The Vienna graduate courses have been mentioned recently in the correspondence department Prof F Widal begins September 4, at Paris two courses of ten lectures each on methods of clinical exploration applied in the diagnosis of diseases, especially of the kidneys and liver Each course is limited to twenty-five, and the price for ten lectures is 100 francs

Personal—Dr N Bishop Harman London, has been elected a corresponding member of the Societe nationale des sciences naturelles et mathematique de Cherbourg, in recognition of his researches into the origin of the facial musculature—Prof George H F Nuttall of the University of Cambridge, England, has been elected a corresponding member of the Societe de Biologie, Paris, and of the Society of American Bacteriologists—Dr Alexander Mills Kennedy, who was appointed professor of medicine in the Welsh National Medical School last October, has been elected dean of the school to succeed Prof David Hepburn—Sir William Thorburn Sir Charles A Ballance and Dr R P Rowlands have been elected fellows of the Royal College of Surgeons of England—Dr Legry, professor of anatomy in the Paris School of Medicine, has been elected a member of the Academie de Medecine at Paris to succeed the late Professor Ranvier—Prof L Devoto has been placed in charge of the Italian Antonio Devoto Foundation which has a 10 000,000 liras fund to train the public in hygiene and prophylaxis of occupational affections An asylum for children and a colony for study and work are also planned and a large property has been acquired at Chiavari for the purpose Some scholarships for college work and graduate study are also to be offered to Argentine undergraduates and graduates—The seventieth birthday of Dr S Goldflam, one of the leading neurologists and alienists of Poland, was celebrated by the profession there recently The *Informateur* states that a special volume of "Neurologie polonaise" was dedicated to him on this occasion

Deaths in Other Countries

Dr W H Banner Robinson, surgeon-general with the government of Bengal, India—**Dr K McMillan,** of typhus fever while attending his patients, at Hamkeung Korea—**Major-Gen W F Stevenson,** R A M C, England, formerly professor of clinical and military surgery at the Royal Army Medical School, author of "Wounds in War, the Mechanism of Their Production and Their Treatment", July 7, aged 78—**Dr A N Davis,** superintendent of the Devon Memorial Hospital, England, June 29, the day preceding his intended retirement—**Dr Deiters,** director of the Psychiatric Institution at Duren, aged 54—**Dr S S Ostenfeld,** assistant to the orthopedic clinic at Copenhagen—The *Policlinico* reports the death of **Dr C Cavazzeni** and **Dr Ricci** of Bergamo both killed in an automobile accident—**Dr J Drivon** of Lyons, aged 80

Government Services

Changes in Public Health Service Appointments

Changes in the heads of the various divisions of the U S Public Health Service have been announced by Surgeon-General Cumming Surgeon F C Smith has been detailed as Assistant Surgeon-General in charge of the division of marine hospitals and relief, and Surgeon B J Lloyd has been detailed as Assistant Surgeon-General in charge of the division of sanitary reports and statistics of the bureau Assistant Surgeon-General C H Lavinder has been relieved as Assistant Surgeon-General in charge of the division of marine hospitals and relief and has been assigned to the position of executive assistant in the office of the Surgeon-General Assistant Surgeon General B S Warren has been relieved from duty as Assistant Surgeon-General in the bureau and assigned as director of the second regional district, at Baltimore

New Medical Reserve Units

In accordance with the scheme of organization of medical reserve units, the following new hospitals have been organized

Evacuation Hospital No 21 (St Anthony s Hospital Terre Haute Ind)

General Hospital No 55 (Creighton University College of Medicine Omaha Neb)

Red Cross Loans for Blinded Ex-Service Men

At the meeting of the executive committee of the American Red Cross in June the sum of $12 000 was made available for making capital loans to blinded ex-service men during the fiscal year ending June 30, 1923 These loans are for the totally or partially blinded soldiers who wish to establish themselves in a small business The loans will be subject to the following conditions

1 No loans shall be made unless the man s progress has been satisfactory to the officer of the U S Veteran s Bureau who has had immediate supervision of his training

2 No loans shall be made until a thorough investigation of the business venture has been made by a responsible agent of the bureau who is familiar with the nature of the business which the man desires to establish

3 No loans shall be made without the approval of both the director of the Evergreen School for the Blind and the fiscal agent of the American Red Cross if the man has received his training at Evergreen or without the approval of the supervisor for the blind and the fiscal

agent of the American Red Cross stationed at Evergreen if the man has received his training elsewhere

4 It is the understanding that in every case in which a trainee has been aided to establish himself in a small business venture with the aid of a loan he will be given adequate supervision and follow up and that for the first year he will be visited by an agent of the bureau familiar with the training of the blind and with the nature of the business at least once in three months

Foreign Letters

PARIS

(From Our Regular Correspondent)

July 21, 1922

Spread of Cocain Traffic

About a year ago Dr Courtois-Suffit, a medicolegal expert, presented, in collaboration with Dr Rene Giroux a communication to the Academy of Medicine on the inadequacy of the law of July 12, 1916 in connection with the campaign against cocainomania (THE JOURNAL, Aug 20 1921 p 633) In the meantime, Suffit and Giroux have pursued still further interesting investigations on the traffic in cocain The number of arrests on the charge of trafficking in cocain has increased four-fold from fifty three in 1916 to 212 in 1921

In order to escape the vigilance of the police, traffickers in cocain have of late, invented a number of schemes some of them quite ingenious They sell the drug in counterfeit wristwatches, medallions, or powder boxes with a double bottom Some go about as truckers, selling tangerines containing a supply of cocain, others offer for sale artificial flowers which have within their petals a tiny pouch enclosing 2 or 3 gm of the drug Some persons engaged in the traffic do not carry with them a supply of the drug but seek out customers while they are trailed by a partner who distributes the drug Sometimes too, the cocain is offered for sale, payment is made in advance and the place where the drug is concealed is made known It may be behind a drinking fountain under the sidewalk or under the seat of a parked taxicab Employees on through express trains and soldiers with the occupation troops in the Rhine Province are said to be guilty of taking part in the traffic The drug is transported by aeroplane as well as by mail, coming in this case, chiefly from Morocco, Spain and Holland To facilitate distribution, important depositories have been created throughout the provinces A firm of exporters and commission brokers, who were supposed to be dealing in textiles was in reality engaged in wholesaling German cocain The enormous profits realized constitute a very serious temptation The present purchase price of a kilogram of cocain is about 1,300 francs ($106 60) A small package of cocain, containing 1 gm, is usually sold for from 20 to 30 francs Thus the traffickers and middle men have about 20 000 francs ($1,640) to divide between them for every kilogram of the drug they sell

Drs Briand and Livet recently pointed out that certain occupations and employments have a tendency to increase the number of cocain addicts For instance among motion picture artists the use of cocain is widespread, owing to the fact that the drug is said to make the eyes more brilliant and more photogenic In order to combat this illicit traffic more successfully a law supplementing the act of July 12 1916, has just been passed According to the terms of this new law the courts shall impose a prison sentence of not less than five years nor more than ten years on persons found guilty of having contributed to the delinquency of others by facilitating in any manner the use of narcotic drugs But in order that the campaign against cocainomania may be effective it is desirable that some form of international understanding on the subject should be reached The spread of the cocain habit in foreign countries, as well, makes it seem likely that it would be possible to bring about the creation of an international commission on narcotics, the most important duty of which would be to draft an international law covering the subject and to provide for its rigorous enforcement Dr Briand and Livet have appealed to the Societe de medecine legale that it draw up such a resolution

In view of the fact that the council of the League of Nations has established a consultative commission on opium, it is to be hoped that the labors of this commission will result in the formulation of a uniform plan by which the trade in narcotics can be controlled adequately

The Therapy of Hypophysial Syndromes

The third Reunion neurologique internationale annuelle recently held in Paris under the auspices of the Societe de neurologie devoted the whole session to the discussion of the therapy of hypophysial syndromes Drs Jean Camus and G Roussy both of Paris presented a report on the pathologic anatomy and the pathologic physiology of such syndromes Dr J Froment of Lyons discussed the clinical and the therapeutic aspects of these syndromes Dr Velter of Paris described the visual affections associated with hypophysial tumors Dr Harvey Cushing of Boston the surgical treatment of tumors of the pituitary body and Dr Beclere of Paris the roentgenotherapy of the hypophysis

Beclere collected forty cases of hypophysial tumors treated by roentgenotherapy The results were excellent from every point of view Beclere regards roentgenotherapy as the preferable treatment of tumors of the pituitary body (especially in acromegaly and giantism), with the exception of tumors of syphilitic origin and syndromes characterized by glandular deficiency

In regard to organotherapy, Dr Froment expressed himself in a reserved manner He recalled that we are not entitled to consider extracts of the pituitary body as the equivalent of products secreted by the hypophysis Some of the effects secured by the injection of such extracts may be due to the presence of quite ordinary substances There is however one syndrome on which injections of an extract of the posterior lobe exert a marked effect namely diabetes insipidus but the action seems to be palliative rather than curative Some encouraging results have been obtained in infantilism and in the adiposogenital syndrome While Froment would not wish to reject organotherapy absolutely he emphasizes that the application of the method should be in a very critical spirit

Preventive Serotherapy in Tetanus in Civil Practice

In a recent number of the *Gazette des hopitaux* Dr Lop of Marseilles raises the question whether preventive serotherapy in tetanus is indispensable in civil practice He refers to a communication presented *during the war*, by Dr Souligoux to the Societe de chirurgie, in which he stated that while he was not opposed to preventive injections of antitetanic serum, he did not think that the disappearance of the tetanus was due solely to these injections, *the principal factor* is the asepsis and the antisepsis, which are applied with more active and more effective substances than at the beginning of the war Of from 1 000 to 1 200 persons injured annually on the streets, wharves or boats or in factories Dr Lop has had, during a long period of years only one case of tetanus which he encountered in a fully developed state the fourth day after the accident The wound was a bruise of the hand The tetanus was treated and cured by the Baccelli method Lop does not use, at the present time the preventive injections of antitetanic serum nor has he done so since 1906, in which year he observed two fatal cases of tetanus in patients who had received preventive

injections of antitetanic serum that had come directly from the Pasteur Institute Among the 15,000 injured persons that he has treated since that time, there were some who presented serious bruises and lacerations Nearly all the wounds were contaminated with grease and dirt A number of the patients were injured at sea, some on boats transporting horses, and often received no medical attention for from four to eight days after injury

No doubt, the war wounded presented a higher degree of susceptibility, as a result of the fatigue and privations suffered during the hours preceding or following the battle, and in consequence also, of the delay, often prolonged in receiving first aid, which was not always adequate in the first-aid outposts Lop is ready to admit that, if he had been at the front, inadequately equipped, he would not have hesitated to resort to preventive injections of antitetanic serum—if for no other reason to satisfy his conscience and out of respect for the results obtained and proclaimed by surgeons whose scientific authority is only equaled by their probity But, farther to the rear, in an evacuation hospital in which approximately the same conditions obtained as in civil practice, he would not have departed from the technic that he ordinarily employs lavage, cleansing with soap, disinfection with alcohol or ether tincture of iodin and hydrogen peroxid extensive debridement prudent sequestrotomy, continuous irrigation with surgical solution of chlorinated soda or with iodin-iodid solution

Death of Dr Jacques Bertillon

Dr Jacques Bertillon director of the army bureau for medical and surgical statistics, died recently, at the age of 70 after a long illness Convinced that the end was near he wrote a short account of his life and sent it to certain journals He was the son, grandson and brother of well-known statisticians, and devoted his whole life work to statistics For a period of thirty years—from 1883 to 1913—he was chief statistician for the city of Paris For more than ten years, he was an instructor in the science of statistics in the College libre des sciences sociales, which he had helped to found in 1895 He published a large number of articles in special journals, more particularly in the *Journal de la société de statistique* (of which society he was president) and in the *Annuaire statistique de la ville de Paris* He assisted in founding the national alliance for the augmentation of the population of France and, with a view to supporting national propaganda for the betterment of the birth rate, he founded the review *La femme et l'enfant* He was a member of the Conseil superieur de statistique and also of the Conseil superieur de la natalite

Dr Gran's Account of Famine Conditions in Russia

Dr M M Gran of Petrograd speaking at the Pasteur Institute of Paris recently gave a vivid account of famine conditions in Russia Dr Gran has been sent out by the Pan-Russian Medical Union to make known to the medical profession in Europe and the United States the gravity of the sanitary situation created by the famine, which presents certain serious dangers for the countries of western Europe According to Dr Gran the number of persons suffering from the famine amounts to 35 million of the population, while the number of persons being aided by foreign governments and charitable organizations (for the most part, American) is only from five to six millions

In connection with this address, the Russian physicians in Paris deposited a magnificent wreath of flowers on the grave of Pasteur and Dr Roux director of the Pasteur Institute spoke of the close relations that had always united Russia's scientists with the Pasteur Institute, to the work of which Metchnikoff had made such important contributions

BELGIUM

(From Our Regular Correspondent)

Liege, July 24, 1922

Anergic Syphilis

Before the Societe des sciences medicales de Bruxelles, Dr Dujardin discussed recently the question as to whether it is possible to bring about the appearance of allergy in tardy anergic (inactive) syphilis He explained also the indirect procedure by which he had attempted to solve the problem Allergy in syphilis is not effected solely by prepared extracts of spirochetes, it can be brought about by certain ordinary substances for example, the frank intradermal reaction to milk in tertiary syphilis It may be noted in passing that allergy in tuberculosis as well may be produced in the same manner Allergy appears thus to be a quite simple reaction of any organism, for a long time infected, toward certain organic substances that in some respects are similar to the original toxic cause of the infection By successive cutaneous injections of milk, we can secure marked cuti-reactions to milk in a given subject, that is, he develops an allergy for milk The question arises as to whether or not this allergy for milk will produce a specific allergy in an anergic syphilitic While Dujardin cannot as yet assert that such is the case he has noted at least a curious result namely that injections of milk may exert a frank influence on secondary symptoms and it seemed to him that they effected some improvement in tabetic patients, not only with respect to their general condition but also as regards certain subjective symptoms (darting pains) He thinks that this result is sufficient to justify further research, especially in view of the fact that chemotherapeutics seems thus far to have been unable to produce a cure for tardy anergic syphilis (general paresis etc)

Celebration of the Centenary of the Societé royale des sciences médicales et naturelles

The Societe royale des sciences medicales et naturelles the venerable yet perennially young scientific society of Brussels which is a direct lineal ancestor of our Academy of Medicine in that the latter derived its founders from the former celebrated, June 22 with special ceremonies held in Marble Hall the centenary of its foundation Professor Heger gave a vivid and trustworthy account of the founding and early activities of the society bringing out the fact that it took up and continued the work of the old Societe de medecine, de chirurgie et de pharmacie, which was established in 1795 following the fall of the Austrian regime After in existence of a hundred years, the society was still giving abundant evidence of its vitality Men succeed each other,' he said historical events pass across the stage and fall into oblivion, but institutions which are the outgrowth of high thoughts and lofty principles persist and must persist if their purpose is noble and upright, not contaminated by selfish interests and promoting only the good of the general public"

The Goiter Problem in Belgium

The results of Dandois inquiry into the incidence of goiter in Belgium, which he recently laid before the Royal Academy have a suggestive interest His report shows that there are very few cases of goiter in Belgium, and it is interesting to study in a nongoitrous country the geographic incidence of the disease It appears that the results are not identical with those obtained in countries in which the disease is widespread

Dandois divides the country into three regions, basing the distinction on the relative number of cases of goiter found in each as shown by the examination of recruits Lower Belgium, made up almost entirely of plains, presents an insignificantly low incidence of goiter Middle Belgium, for the most part a country of plains, but which has, scattered

here and there small areas of rocks and wooded hills shows an appreciably higher incidence than Lower Belgium, but the number of cases is still comparatively small The third area, the provinces of Liege, Luxembourg and Namur, where the earth's surface is uneven rocky and cut up with mountains and valleys with winding rivers, furnishes, with a total population of not much more than a million, relatively high figures, there having been 108, twenty six and seventeen exemptions, respectively, in the three provinces

This inquiry is only the prelude of a statistical study which will furnish valuable information for the time is propitious in view of the fact that the project of distributing throughout the state a high grade of drinking water seems about to be realized and the further fact that the economy of the distribution of goiter poison is being studied more and more and that in all probability drinking water will be found to be the principal intermediary agent

Annual Meeting of the Belgium Surgical Society

The annual meeting of the Societe belge de chirurgie was held this year at Liege, under the presidency of Professor Willems A large number of surgeons of Brussels Antwerp and Ghent gathered in the hospital services of Liege and listened to the discussions There were three main subjects studied

ARTICULAR TRAUMATISMS OUTSIDE OF FRACTURES

Albert of Liege set forth the surprising results secured by immediate active mobilization in traumatisms of the knee It was first applied to the treatment of hemarthrosis Willems method has completely revolutionized old therapeutic methods and changed for the better the prognosis in a large proportion of articular lesions The technic and the results are very simple In simple traumatic hydrarthrosis, the treatment is the same and the results are also perfect The essayist reported also the excellent success secured by meniscectomy in cases of contusion or of luxation of the semilunar cartilage fifty cases of which have been treated by Willems

The method has been applied also to purulent arthritis, formerly much feared All forms of incision and all means of drainage that had been tried hitherto had failed miserably *Mobilization begun at the start, while the infection is still* confined to the synovial membrane, by a continual *brassage*, rids the joint of its purulent contents When the treatment is instituted in the very beginning, patients suffering from purulent arthritis in full evolution will preserve in the injured member a musculature scarcely inferior to that of the corresponding sound member

AMPUTATIONS AS DETERMINED BY THE TYPE OF PROSTHESIS TO BE WORN

Martin and Neuman discussed the level of the amputation the choice of technic and postoperative treatment In leg amputations they prefer the Anten method with lateral flaps They discredit the classic amputations of Chopart Pirogoff and Lisfranc They assign great importance to providing patients with temporary prosthesis soon after the operation, and recommend early *mobilization for amputation* stumps Some of their conclusions follow

The development of orthopedics, as far as supplying prosthetic apparatus for patients is concerned has had a notable influence on the surgical technic of amputations It is clearly evident from the experience gathered during the war that a surgeon who is called on to perform operations should keep in close touch with an orthopedist who is acquainted with modern methods of treatment and with modern types of prosthesis The complete recovery of this class of wounded demands the close collaboration of the surgeon and the orthopedist It is desirable, for the sake of those who have had limbs amputated that the large surgical services recognize the necessity of this collaboration Our large sanitary units both official and private, should have an orthopedic service attached to their formations, at least for the orthopedic treatment of stumps and the early provision of prosthetic apparatus It would also be desirable for such formations to keep in constant touch with an institution capable of furnishing prosthetic apparatus constructed on definite rational and scientific principles

PSEUDO APPENDICITIS

Voucken and Reynders brought out the importance of deep roentgen-ray examinations for the purpose of diagnosing pseudo appendicitis which may take on the various clinical aspects of chronic appendicitis They draw especial attention to cases which owing to the presence of a Jackson membrane or on account of pericolitis, mesenteritis or epiploitis require special surgical treatment

LONDON

(From Our Regular Correspondent)

London, July 14, 1922

Fifth International Birth Control Conference

The fifth international birth control conference, of which the program was given in a previous letter (THE JOURNAL, June 17 1922 p 1907) has been held The attendance was not large but the delegates included visitors from all parts of the world as well as a number of health officers and other representatives of public bodies in this country The president, Dr G V Drysdale said in his address that there had been an embargo on the entrance of science into the social sphere and that their movement was the result of the attempt of the greatest thinkers of the past and present to obtain a really scientific sociology They met for the first time with the knowledge that the whole world was ready for the doctrine of birth control and that East and West were ready to meet on this fundamental human need The terrible economic distress and unemployment which followed the war had forced statesmen to recognize the fundamental truth of the malthusian doctrine, while the great pronouncement by Lord Dawson the king's physician in favor of both a rational and humane sexual philosophy and birth control, had had an effect all over the world

Today all organized opposition to birth control was dead except that of the Roman Catholic church The movement was as greatly concerned with the quality of the race as with its quantity and the latter question was becoming of supreme importance in countries such as Great Britain, America and France, where the birth rate had now fallen to fairly manageable figures but where family limitation had been adopted by the educated and successful sections, leaving the poor improvident stocks to multiply without restraint in their ignorance to the great injury of our race *The movement* had always been deeply concerned with moral ideals, and had always had as one of its chief aims the promotion of sexual purity through general early marriage One of *the most* important objects of the conference was to urge that the public authorities of all nations take steps to secure the provision of hygienic birth control instruction at all hospitals and medical centers where the poor and the diseased congregated *For the whole* of Europe, the birth rate had fallen from 40 in 1876 to 36 5 in 1901 which meant 3,000 000 fewer annual births Australia and America probably swelled the reduction to 5 000 000 This meant that at least 20,000,000 persons had adopted family limitation in one form or another in the forty-five years since the beginning of the movement The reduction of births had saved at least the same number of lives If the process was continued until the average birth rate of the entire world was reduced to 17 or 18 per thousand they would save lives at the rate of 25,000,000 each year,

remove untold suffering from millions of hapless men, women and children, make early marriage and social purity possible, eliminate the struggle for bare existence, improve the quality of the race and delay the economic rivalry which was the most potent cause of international friction and war

Herr Ferch (Austria) said that in his country their opponents, who were supported by large sums of money, were mainly the war profiteers who were dreaming of a war of revenge through an excessive birth rate Dr Goldstein (Germany) deplored the fact that nothing of the conference would be published in the German papers

A resolution was passed expressing pleasure at the achievements of the movement and its extension to the East and calling on the governments of all nations to facilitate extension of birth control knowledge among the poor and unfit in the interests of human welfare race improvement and lasting peace

At the afternoon conference Mrs Margaret Sanger president of the American Birth Control League, presided Mr Edward Cecil said that the root cause of the evil was too much motherhood What chance was there under modern conditions especially in towns for the mother or the children when children were brought into the world at the rate of one a year?

Bernard Shaw on "The Advantages of Being Unregistered"

Mr Bernard Shaw addressed a crowded meeting of the Abernethia Society of St Thomas Hospital on the heretical theme of 'The Advantages of Being Unregistered, which he treated in his usual paradoxical vein It was a serious blow he said to medical prestige that a knighthood had been conferred on Mr Parker the 'bone setter" (THE JOURNAL July 1 1922, p 52) This title was usually given in medicine to the heads of the profession Here it had been bestowed on a man who was not only unregistered but unqualified He had no recognized medical training but "had learned his business' from another bone setter The faculty was inclined to regard such persons as ignorant Unfortunately, they got relatively as many cures as the qualified and often obtained their best results when the latter had failed To the public there had always been a glamor about the unqualified man—probably because he dared to charge more than his qualified rival His popularity had increased so much of late that patients would now frequently run the whole gamut of osteopaths masseurs Christian scientists and psychotherapists before turning to the qualified physician

What was the cause of this waning faith? He attributed it to the narrow mindedness of the general medical council Its main failing was that it consisted entirely of physicians Such a system tended to a medical autocracy and the community for whom the physicians worked had no opportunity of expressing its views on medical organization and conduct The remedy lay in constituting the council mainly of members of the informed public with physicians as assessors Such a body would be in a position to effect several needed reforms in medical practice and education First was the question of admission to the profession It was absurd for any body of men, whether physicians or bottle-washers to say to a man, You shall not enter our profession That was for the general public to say Next came the problem of medical education The most needed reform was lengthening of the curriculum, but this could be compensated for by cutting out certain unnecessary parts of subjects which were taught at present The smattering of science, for instance, in which the medical student was grounded, was unnecessary Medicine was not a scientific profession Yet such was the effect of the so called scientific training that the surgeon tended to regard all disease problems as mechanical, the physician to regard them as chemical, whereas, such problems were vital The curriculum should be lengthened by study of Swedish massage and osteopathy, both of which forms of treatment had proved of value

The Medical History of the Great War

The second of the series of volumes of the medical history of the war has been published It is the first of two volumes on diseases The chapter on influenza is contributed by Dr Herbert French and Sir Wilmot Herringham Much attention is given to the conditions in which pneumonic symptoms developed Delirium and coma occurred in bad cases, but more striking was the number of cases in which they were entirely absent Big strong men, cyanotic, breathing thirty times to the minute and obviously dying, would be fully conscious not realizing their danger in the least until within a half hour of death" In the chapter on cerebrospinal fever, of which there was a formidable epidemic, the importance of overcrowding in the causation is emphasized In the chapter on trench fever, the failure of all forms of treatment, including arsphenamin, is pointed out Prophylaxis—freeing the man from lice—is the important thing The second volume will be concerned with gas warfare, and the medical aspects of aviation and mine warfare It is expected that the whole series excepting the two volumes on statistics and epidemiology will be completed about the end of the year, with the exception of the general histories of the medical services in the various campaigns of the war

The Army Medical War Collection

The valuable army medical war collection of specimens, which has been housed at the Royal College of Surgeons (as described in a previous letter to THE JOURNAL) has now been handed over to the college by the War Office with a sum of $37,500 which is to be devoted in part to a new building for housing the collection while the rest is to be invested with a view to providing an annual sum to help in the maintenance of the new section An important feature of the arrangement is that while the collection will form an integral part of the museum of the college, it will always be at the disposal of the army medical authorities for demonstrations to members of the corps

Industry's Death Roll

The annual report of the chief inspector of factories and workshops for the year 1921 has just been issued During the year 92 565 accidents were reported of which 951 were fatal as compared with 138,773 of which 1 404 were fatal, in the previous year The decline is almost entirely due to the phenomenal inactivity of industry throughout the year, including the prolonged coal strike which resulted in many large iron mills and blast furnaces being completely closed down for a long period These industries are heavy accident producers The number of accidents due to electricity was 322 thirty-two being fatal—a reduction of 20 per cent in the total and of 50 per cent in the fatal cases compared with each of the previous two years There were 230 cases of lead poisoning, of which twenty-three were fatal In 1900 the number was 1,058, of which thirty-eight were fatal There were no cases of phosphorus or mercury poisoning but one case of arsenic poisoning The figures for anthrax were twenty-five cases with six fatalities This low figure is held to be partly due to the inauguration of the government station for the disinfection of wool at Liverpool On the question of hours of work it is stated that, since the forty-eight-hour week has been established, it is a source of satisfaction to find that, when the reduction of hours is continued over a considerable period, output tends in the majority of cases to attain the old level and that the beneficial effects of the increased leisure on the workers are becoming apparent

Marriages

CECIL EDWARD REYNOLDS Los Angeles to Miss Nora Gardner of Hollywood, Calif, July 22

WILLIAM KUYKENDALL to Miss May Rowland, both of Eugene, Ore at Salem July 19

LOUIS FRANCISCO ROSS to Miss Margaret Grubbs Starr both of Richmond, Ind, July 19

DOUGLAS SQUIRE CORPRON, Yakima Wash to Miss Grace Chapman of Redwood Falls Minn July 12

PHILIP L NEWMEYER, Salem Ore, to Miss Ruth Johns of Manila, P I, at San Francisco July 13

CHARLES WILLIS MCLAIN, Gurdon Ark to Miss Joyce Dudley of Hope Ark, June 24

JAMES WESLEY ALDRIDGE to Miss Martha Coffing, both of Covington, Ind, June 15

ABRAHAM GREENBERG Omaha, to Miss Blooma Kogan of Minneapolis, June 14

EARLE BLOODGOOD FOWLER to Miss Barbara Blatchford both of Chicago, August 5

JOSEPH POKORNY to Miss Carrie Wells both of Baltimore July 23

Deaths

Harold Barclay ⊕ New York City, Columbia University College of Physicians and Surgeons, New York, 1899, member of the New York Academy of Medicine, consulting gastro-enterologist to the Portchester Hospital and to St Mary's Hospital, Hoboken, assistant attending physician at Bellevue Hospital New York, served two years in France during the World War with the M C U S Army specialized in internal medicine, died suddenly, July 22, aged 46, at Biarritz France

William D Wolverton ⊕ Pittsdown, N J, colonel U S Army retired, was appointed assistant surgeon in the Army in 1861, served as chief surgeon department of the Columbia Vancouver Barracks, Wash from 1894-1898, was post surgeon at Washington Barracks, D C medical director of the department of the South at Hilton Head S C in 1864, retired in 1898 with the rank of colonel, died, July 20, aged 88

Edward M Eidheer, Chicago, University of Vienna Austria, 1886 formerly expert in the department of agriculture, bureau of chemistry, Austria, member of the Royal Academy of Science of Vienna and the Academy Physico-chemique Italienne, was awarded the gold medal for technical work and scientific merit of the Italian Academy of Palermo died, July 24, aged 60, from cerebral hemorrhage

John E Sylvester ⊕ Wellston Ohio, Medical College of Ohio, Cincinnati, 1876, Bellevue Hospital Medical College New York 1884, formerly president of the Ohio Valley Medical Society, for many years councillor of the Ohio State Medical Association, *for twenty-five years owner and publisher of the Wellston Telegram,* died, July 25 at the Holzer Hospital Gallipolis from diabetes, aged 67

John Nesbit Scott ⊕ Peabody Kansas, University Medical College of Kansas City, Mo, 1897, established the first radiographic laboratory in Kansas City, died July 24, aged 51, as the result of burns received in experimenting with roentgen rays while in practice at Kansas City Dr Scott's right hand was amputated several years ago necessitating his retirement from practice

George Shultze Youngling ⊕ New York City, Bellevue Hospital Medical College, New York 1890, consulting physician to the Manhattan State Hospital and to the Central Islip (L I) Hospital for the Insane member of the American Medico-Psychological Association, died, July 25 aged 60, at his summer home in Patchogue, L I, from uremia

Robert Francis Lawless, Stamford, Conn Yale University School of Medicine, New Haven, Conn, 1907, member of the Connecticut State Medical Society, formerly surgeon for the Pennsylvania Railroad, aged 42, fell dead on the Grand Central Terminal steps, New York, July 27, following an overdose of chloral

⊕ Indicates Fellow of the American Medical Association

Charles P Gerstmeyer, Terre Haute Ind, Medical College of Ohio Cincinnati, 1867, formerly on the staff of St Anthony's Hospital, at one time coroner, health officer and member of the school board of Terre Haute, died, July 27, aged 75 from pneumonia

Samuel W Hixon, Daisy, Tenn University of Tennessee College of Medicine Memphis, 1890, member of the board of education, formerly a member of the state legislature at one time county physician, died July 19, aged 62, at a hospital in Chattanooga

Lyman T Strother, Nowata, Okla, Rush Medical College Chicago 1867, Jefferson Medical College of Philadelphia 1873 member of the Oklahoma State Medical Association veteran of the Civil War, died, July 19, aged 82, following a long illness

William Allin Archer, Houston Texas, University of Virginia Department of Medicine Charlottesville 1869, member of the Medical Society of Virginia, Confederate veteran died, July 6 aged 80, from senility, at the home of his daughter

William Patrick O'Malley, St Paul, University of Minnesota Medical School Minneapolis, 1902, served during the World War in the M C S U Army died, July 6, aged 48 from injuries received in an automobile accident near Shakopee

Francis Wade Hughes New Bern N C, University of Pennsylvania School of Medicine, Philadelphia, 1880, member of the Medical Society of the State of North Carolina died June 28 at the Union Protestant Hospital, Baltimore, aged 65

Samuel N Quillin, Washington, D C, Marion-Sims College of Medicine St Louis 1899, former clerk of the house of the Indiana state legislature, died, May 19, aged 53, at the Sibley Memorial Hospital from diabetes

Hugh N McDonald ⊕ Minneapolis McGill University Faculty of Medicine Montreal Que, Canada 1889, formerly professor of diseases of the chest at the Hamline Medical College Minneapolis, died, July 15, aged 59

Ernest Potter Storey, Minneapolis, Denver College of Medicine Denver 1901 died at the General Hospital, July 21, aged 45 as the result of pistol wounds, presumably self-inflicted at his apartment July 18

Alpheus Henley, Melbourne, Fla, Starling Medical College Columbus Ohio 1865 veteran of the Civil War, served as government physician to the Cheyenne and Apache Indians in 1870 died July 11 aged 88

Archibald A Campbell, Statesville N C, University of Maryland School of Medicine, Baltimore, 1889, formerly county physician of Iredell County, died suddenly from heart disease July 17 aged 66

John Lawson Cameron, Philadelphia, Medico-Chirurgical College of Philadelphia, 1888 member of the Medical Society of the State of Pennsylvania died suddenly, July 26, aged 67, at Ocean Grove N J

Edna Ricker Field Kimball, San Francisco Cooper Medical College San Francisco 1883 formerly attending physician to the Children's Hospital died, July 26, aged 74, from hemorrhage of the bowel

James Ray Brady, Sioux City Iowa State University of Iowa College of Medicine, Iowa City, 1893, consulting physician to the Samaritan and St Joseph's Hospital, Sioux City, died July 18 aged 54

Robert H Lillemann, St Louis, Homeopathic Medical College of Missouri St Louis 1904, member of the Missouri State Medical Association died, July 17, at Barnes Hospital, St Louis aged 52

William C C Freeman, Rock Springs Wyo Trinity Medical College, Toronto Ont, Canada 1893, member of the Wyoming State Medical Society died July 21 aged 54, at Salt Lake City

Susan Elizabeth Crocker, Los Angeles, Woman's Medical College of the City of New York 1874, member of the Massachusetts Medical Society, formerly of Boston, died July 18 aged 87

Charles P Evans, Lehigh Iowa, Bennett Medical College Chicago 1891, died, June 6 aged 59, at the Mercy Hospital Fort Dodge, Iowa, following an operation for perforated duodenal ulcer

Enrique Alberto Rodes, Tampa, Fla, Tulane University of Louisiana School of Medicine, New Orleans 1918 died Jul 11 aged 29, in Havana, Cuba, following a long illness

Milton J Hicks, Jacksonville Fla , Emory University School of Medicine (Atlanta Medical College), Atlanta, Ga , 1860, died, July 21, aged 84, at the home of his daughter in Atlanta

Charles Noble Abbott, Chippewa Falls, Wis , Northwestern University Medical School, Chicago, 1907, specialized in obstetrics, died June 1, aged 52, at a sanatorium in Madison

Frank Wilson Martin ⊕ Lansing, Mich , University of Michigan, Ann Arbor, 1886, specialized in ophthalmology otology, laryngology and rhinology, died, July 17 aged 63

Charles Douglas Miller ⊕ Pottsville, Pa , Jefferson Medical College of Philadelphia 1884, member of the board of pension examiners died, July 24, aged 61, from pernicious anemia

Arthur Eugene White, Baggs, Wyo , University of Minnesota College of Homeopathic Medicine and Surgery, Minneapolis, 1890 died, June 22, aged 54, from carcinoma

John Taylor Stewart, Los Angeles, Jefferson Medical College of Philadelphia 1878, member of the Medical Society of the State of California, died recently, aged 72

Enos Hahn ⊕ Leetonia, Ohio, Bellevue Hospital Medical College, New York 1867, died July 8, at Honolulu, Hawaii aged 81, from cerebral hemorrhage

Jesse C Asbury, Greensboro Ga Louisville Medical College Louisville Ky 1886 member of the Medical Association of Georgia died July 3, aged 57

Latzi Szabary ⊕ New Orleans Tulane University of Louisiana School of Medicine, New Orleans, 1877, died July 23 aged 68, from heart disease

R M Kimbrough, Rockwood Tenn University of Tennessee College of Medicine Memphis 1888 veteran of the Civil War, died July 23 aged 66

Joseph H B Adams, Fort Recovery Ohio Physio Medical Institute, Cincinnati 1872, died, July 19 at the Otis Hospital Celina aged 74 from paresis

Albert J Herschman, Milwaukee University of Vienna Austria 1887 died July 31 aged 62 from an overdose of morphin self administered

William D Seeley, Taylorsville, Ky , Louisville Medical College Louisville Ky 1874, died July 14 aged 72 from mitral regurgitation

William D Roussel ⊕ Patterson La , Tulane University of Louisiana New Orleans 1889, died, July 19, aged 54 from heart disease

Charles L Heizman, Colonel U S Army ⊕ San Francisco University of Pennsylvania Philadelphia, 1867, retired, died recently, aged 76

Lucian Tudor Platt, Terryville, Conn University of Pennsylvania, Philadelphia 1869, died recently from lobar pneumonia, aged 76

Oreon Staples Rhodes, East Stroudsburg Pa University of Pennsylvania Philadelphia, 1889, died, July 5 aged 59 from diabetes

Samuel Milton Pratt, Topeka, Kan , Homeopathic Medical College of Missouri St Louis, 1861 died, July 13 aged 86 from senility

J Louis Horsey, Fernandina Fla Medical College of the State of South Carolina, Charleston 1886, died July 13 aged 65

Willis H Park ⊕ Glenwood City Wis , College of Physicians and Surgeons Keokuk Iowa 1884, died, June 27 aged 68

Russell Withers, Annapolis Royal N S Medical Department of Columbia College New York 1865 died recently aged 86

R L Odilon Poliquin, Montreal, Quebec Canada, Montreal School of Medicine and Surgery 1895, died recently, aged 50

Robert Amos Taylor, Spring Valley N Y , Bellevue Hospital Medical College, New York, 1893 died July 16, aged 56

Allen N Gray, Floyd Texas, Baylor University College of Medicine Dallas Texas, 1901, died, June 15, aged 52

H W Booth, Orion Mich , Western College of Homeopathic Medicine, Cleveland 1868, died recently aged 76

Emil J Schwandt, Chicago, Rush Medical College Chicago, 1888 died, August 3, aged 59, from carcinoma

William McChristie ⊕ New York City, Long Island College Hospital Brooklyn 1895 died July 20 aged 56

John Leeson, Cadillac Mich , Detroit Medical College 1869 died July 21, aged 87, from senility

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

THE OWENS ELECTRIC BELT

Another Fraud Barred from the Use of the United States Mails

A P Owens, a peripatetic quack, has been defrauding the public for some time by the sale of an 'electric belt" Owens has advertised from New York City, Buffalo, Miami, Indianapolis, San Antonio and Chicago As long ago as October, 1919, the city of Cleveland, Ohio, which does more, probably, than any other city in the United States to protect its citizens against medical fraud, called attention to the preposterous claims made by A P Owens for his belt

On Jan 14 1922, A P Owens was called on by the federal authorities to show cause why a fraud order should not be issued against him and February 7 was set as the date for hearing the case Owens failed to appear on that date, neither did he send an attorney, but he filed a written answer to the charges together with the advertising literature being used by him at that time in the conduct of his business The solicitor for the Post Office Department, Judge John H

A typical advertisement of A P Owens

Edwards in his memorandum to the Postmaster General, recommending the issuance of a fraud order against Owens, gives the facts regarding this quack in part, as follows

Briefly outlined the scheme conducted by Owens, according to the evidence, consists in placing periodically, advertisements in various newspapers many of them printed in foreign languages, in which he offers for sale through the mails a so-called electric belt which, when worn as directed, is represented to be a cure for various diseases and ailments many of them known to be incurable, while others are amenable to surgical interference only

After getting in touch with prospects through his advertisements he sends them literature containing gross misrepresentations as to the curative value of the belt, and offers terms of purchase which appear to be bona fide After the belt is sold on these terms and the purchaser finds it is worthless or not as represented and returns it Owens refuses to abide by his guarantee to return the deposit 'Without Any Delay Or Question,' but alleges for one reason or another that the terms of the sale have been violated by the purchaser, and insists upon certain conditions being fulfilled, which are impossible of fulfillment'

A typical advertisement of Owens is reproduced with this article Through these advertisements Owens got in touch with his victims Continuing to quote from the memorandum to the Postmaster General

When Owens receives an inquiry respecting his belt he forwards among other literature a stock letter in imitation typewriting setting forth among a number of other representations and promises his alleged 'FAIR AND SQUARE OFFER,' which is as follows

Order one of my powerful No 15 UNIVERSAL MODEL BELTS with OWENS SUPREME POWER BATTERY together with Special Attachment

(if needed) such as Head Bands and Arm or Leg Bands for treating Neuralgia Headache Rheumatism Sciatica etc Send DEPOSIT covering my low catalog price to prove that you are not sending out of mere curiosity You will receive the Belt and whatever you may need with it all wrapped in plain package charges paid You agree to begin immediately and wear the Belt continuously every day or night as directed for a period of TWO MONTHS from the time you take it from the Express or Post Office

At the end of 60 DAYS if you desire to keep the Belt if you are convinced that it has done you more real good than all the drugs and doctors you know of please recommend me to your sick friends But IF after giving the Belt a fair trial as above stated for sixty days you don't want to buy it you agree not to keep it any longer but to return it immediately postpaid to me and if you will do this I will RETURN YOUR DEPOSIT in full without delay or question just as soon as I receive the belt back from the Post Office and the two months trial COSTS YOU NOTHING and as I take all the risk, please be honest with me—don't order unless you NEED THE BELT

"It will be noted that Owens is very emphatic with respect to the matter of alleging that he will return the purchaser's deposit in full 'without delay or question' The evidence shows, however, that purchasers are lucky indeed if they can secure a refund even after considerable bickering It is shown that a purchaser residing in Philadelphia bought a belt from Owens February 11, 1920, under Owens' guarantee that if not satisfied after 60 days use he could return it and his money would be refunded On April 9, 1920, the 59th day the belt was returned as unsatisfactory Owens received the belt on the 60th day The refund was refused because Owens alleged the purchaser had not worn it exactly sixty days On a card mailed to this purchaser on May 8, 1920, Owens states If you can prove to me by a statement from your post office where you mailed the belt that same was mailed not earlier than April 10th, I will return $12 00 to you' The belt was not registered therefore such proof could not be secured and no one knew this better than Owens The foregoing is simply an illustration of Owens methods of evading refunds It indicates his lack of good faith, is directly contrary to his promise to refund without delay or question' and is a part of the general scheme to defraud '

With the letter quoted above Owens also sent certain pamphlets and circulars containing unwarranted and fraudulent claims for the electric belts He also used the orthodox 'scare methods of the medical mail-order faker Solicitor Edwards, in his memorandum, directs attention to this phase of Owens' quackery in these words

"In one of his printed pamphlets Owens has recourse to a method frequently employed by mail order medical concerns namely to scare the readers of his literature into purchasing his belt through dire forebodings of what will happen if prompt action on their part is not taken After warning the reader of the dangers of delay Owens concludes

But for Pity's Sake DON'T DELAY The hospitals and graveyards are full of people who waited for tomorrow to take the treatment they needed today This is no joke remember but A SOLEMN WARNING Send NOW before it IS TOO LATE

Of Owens' tendency to stay in one place only a short time the memorandum says

"Attention is called to the several addresses used by Owens in the conduct of the business At the time of the beginning of the investigation of his business Owens in his advertisements gave Woodcliff Lake N J as his address Investigation at this point disclosed that he had removed to New York When the investigation was undertaken there it was found that a forwarding order was on file showing he had located at San Antonio Texas, and at the same time it was learned that he was doing business at an address in Chicago Investigation begun in Chicago in October 1920 disclosed that Owens had been receiving mail there for about six months at the rate of about 30 letters a day He also was operating under the name of Owens Publishing Company in the sale of alleged obscene pictures and a case has been returned against him relative to that business He was receiving about 20 letters a day addressed to that concern Some time prior to March, 1921, Owens had evidently removed to Miami Florida, as in response to a written communication addressed to him at Chicago by the inspector investigating the case Owens writing from Miami Florida, stated My headquarters is here until May 1st when I expect to leave for Washington D C remaining there a short time then I shall be on the move again, it is doubtful if I return to Chicago for some little time ' Owens plan of flitting from place to place can leave no other conclusion but that this method of evading responsibility also constitutes part of the general scheme to defraud

In summing up the government's case against Owens Solicitor Edwards in his memorandum to the Postmaster General says

"Without reference to the question of the efficacy of electricity in the treatment of disease the evidence in this case shows and I so find that the claims and representations by this promoter for his appliance go far beyond the claims of those members of the medical profession who now recognize electricity as being efficacious in the treatment of some conditions The evidence shows that electro therapists do not employ electric belts in the treatment of disease

The evidence in this case further shows, and I so find that the refund guarantee and so-called free sixty days' trial offer employed by Owens to induce persons to purchase his appliance are not made in good faith, but are designed to work a fraud on the public

I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises and I therefore recommend that a fraud order be issued against A P Owens"

The fraud order was issued against A P Owens by the Postmaster General July 18 1922

Correspondence

SUGGESTION OF SPIROCHAETA NEOTROPICALIS AS NAME FOR SPIROCHETE OF RELAPSING FEVER FOUND IN PANAMA

To the Editor —Work recently done has proved that the spirochete of relapsing fever in Panama is transmitted by the human tick *Ornithodoros talaje* and that this spirochete is of a distinct species variety or strain from the commonly recognized relapsing fever spirochetes *S obermeieri, S novyi S kochi S duttoni* and *S carteri* Thus far we have called the organism referred to above the spirochete of Panama but now feel that the time has come to give it a specific name *S novyi* is generally recognized as the relapsing fever spirochete of North America Agglutination and immunologic tests demonstrate that the spirochete found in Panama differs as markedly from *S novyi* as *S novyi* does from the Old World strains

The surface of the earth is divided by zoologists into six regions namely the Palearctic the Oriental the Australasian the Ethiopian the Nearctic and the Neotropical regions The boundaries of these regions have been determined in a general way by the localization of genera and species of various forms of animal life It does not seem at all improbable that each of these regions has its own particular species of the relapsing fever spirochete

The Palearctic region which includes all of Europe and the northern part of Asia has *S obermeieri* The Oriental region which includes India Siam the whole of the Malay Peninsula part of China Formosa part of Japan and the Philippine Islands has *S carteri* (India) The Australasian region which includes New Guinea Australia and the Polynesian Islands thus far has no described species The Ethiopian region which includes all of Africa south of the Great Desert and southern Arabia, has *S duttoni* There is also a spirochete credited to East Africa, but Castellani and Chalmers state that recent researches seem to identify it with the West African type There is another spirochete, *S berbera* credited to the northern part of Africa, and to Algeria Tunis Tripoli and Egypt This territory falls within the Palearctic or European region, and Castellani and Chalmers state that immunologic experiments show that this fever is closely related to the European type The Nearctic region which includes all of North America north of the Mexican line except for the southern portion of Florida,

has *S. noguchi*. The Neotropical region, which includes all of Central America and all of South America, has the spirochete of Panama, which we have referred to above. Relapsing fever is not uncommon in Colombia and Venezuela and it is quite possible that the relapsing fever spirochete found in these countries is identical with the one found in Panama.

We propose the name *Spirochaeta neotropicalis* for the organism which we have referred to as the spirochete of Panama, because it is found in the Neotropical region and because we believe it to be a distinct species. The term spirochete, to paraphrase the words of Fantham, Stephens and Theobald, is used in this connection without prejudice as to the organism's ultimate correct generic name.

LEWIS B. BATES, M.D.
J. HAROLD ST. JOHN, M.D.
Ancon, Canal Zone

EXCISION OF BENIGN PIGMENTED MOLES

To the Editor.—Benign pigmented moles as a rule can be removed with the knife. The pigmented area should be given a margin of at least one half inch or more, and the wound can be closed. One should divide the skin and remove some of the fat. If the margin of the pigmented area is indefinite, a wider margin should be given. Even if one cannot close the wound, one should never give a narrow margin. The only danger of excising a benign mole is to leave a piece of the tumor behind.

If the mole is situated in a position where it is difficult to give a good margin, for example near the ala of the nose or the eyelid, the cautery should be used. The cautery must be hot enough to cut through the skin readily. When I think that the mole has become malignant, I always use the electric cautery *instead of the knife, give a very wide margin of skin* and remove the subcutaneous fat and fascia.

We have on record at least 300 benign moles without a recurrence or death from metastasis. They were all completely excised with the knife or the cautery. During the same period of thirty years we have operated on at least 200 malignant moles with only one five-year cure.

In removing a mole, therefore, the skin and fat should be cut through, and should be given a good margin of healthy skin. As a rule the excision can be done with the knife under procain and the skin closed by any of the usual procedures. All elevated pigmented moles should be removed.

JOSEPH C. BLOODGOOD, M.D., Baltimore

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

PENETRATION OF ROENTGEN RAYS

To the Editor.—Your answer to my inquiry about the penetration of the roentgen rays (THE JOURNAL, June 24, p. 1982) is still not clear to me. 1. I am surprised that you state that the square of the distance has no reference to penetration. *If not, what is the law for penetration?* 2. The alpha, beta and gamma rays had use as names for the rays of the roentgen rays perhaps before we had radium, if I remember correctly; so why are they applied only to radium? Why not compare the gamma ray from the roentgen ray to the so-called gamma ray of radium? 3. Further, I am still more confused when you tell me that intensity refers to amount and penetration to quality.

PALL PEVISTON, M.D., Newnan, Ga.

ANSWER.—1. The law of penetration is that any beam or any part of a beam of the roentgen ray is absorbed in any given substance, in proportion to the cube of its wave length. It is, of course, absorbed at different rates in different substances, the rate of absorption being as the cube of the atomic number of the absorber. There is a regular formula for this absorption rate which is given in an article by Dr. A. W. Hull (*Journal of Radiology* **1**: 27 [Jan.] 1920). The distance has nothing to do with the rate of absorption, or penetration, of the roentgen ray.

2. The terms alpha, beta and gamma are not usually applied to rays issuing from a roentgen-ray tube. These three names are used to indicate radiations from radium which is composed of three distinct kinds of rays. The alpha ray is the emission of a gas, the beta ray is a stream of electrons such as passes from the cathode to an anode of a roentgen-ray tube, gamma rays are electromagnetic waves. Only the electromagnetic waves come out of a roentgen ray tube. The gamma ray from radium is exactly the same thing except that the shortest wave coming from the ordinary roentgen-ray tube is in the neighborhood of one tenth of an Engstrom unit in length, while most of the gamma radiation from radium is of much shorter wave length than this. It has been estimated that in order to get from a roentgen ray tube wave lengths as short as the shortest wave length from radium it would be necessary to operate a tube at 1,000,000 volts.

3. With the roentgen ray just as with a beam of white light the beam includes many different qualities of radiation. A beam of white light may be divided into seven primary colors with all kinds of intermediate shades. This is because different wave lengths produce different color sensations in our organs of vision. A beam of roentgen ray will be composed of many different wave lengths or qualities of radiation. While these waves produce no sensation of color and do not affect our vision the different wave lengths, or qualities are just as distinct in their properties as are different wave lengths in a beam of white light. Two things must always be taken into consideration as applied to a beam of roentgen ray, intensity and quality, intensity refers to the amount of radiation, and quality means the same thing as penetration.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 5. Sec., Dr. Harry C. DeVighne, Juneau.

MASSACHUSETTS: Boston, Sept. 12-14. Sec., Dr. Samuel H. Calderwood, State House, Boston.

NEW HAMPSHIRE: Concord, Sept. 7-8. Sec., Dr. Charles Duncan, Concord.

NEW YORK: Albany, Buffalo, New York and Syracuse, Sept. 25-28. First Professional Examinations. Mr. Herbert J. Hamilton, State Education, Albany.

Iowa March Examination

Dr. Rodney P. Fagen, secretary, Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, March 21-23, 1922, and also reports that one candidate was licensed by reciprocity and one by endorsement of credentials at the meeting held April 12, 1922. The examination covered 8 subjects and included 100 questions. An average of 75 per cent was required to pass. Two candidates were examined, both of whom passed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Harvard University	(1918)	87.6
University of Berlin	(1920)*	85.6

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
Ohio State University College of Medicine	(1919)	Ohio

ENDORSEMENT OF CREDENTIALS		
College	Year Grad.	Endorsement with
Northwestern University	(1915)	N. B. M. Ex.

* Graduation not verified.

Maine March Examination

Dr. Adam P. Leighton, acting secretary, Maine State Board of Registration in Medicine, reports the written examination held at Portland, March 14-15, 1922. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Seven candidates were examined, all of whom passed. The following colleges were represented:

PASSED					
College	Year Grad.		Year Grad.		Per Cent.
Harvard University			(1913)		84
Tufts College Medical School	(1920)	82	(1921)	85	87 88
Dartmouth Medical School			(1875)		77
McGill University			(1918)		86

Book Notices

RINGWORM AND ITS SUCCESSFUL TREATMENT By John P Turner, M D Medical Inspector of Public Schools Philadelphia Cloth Price $1 net Pp 62 with 8 illustrations Philadelphia F A Davis Co, 1921

This monograph is written, according to the foreword, because of the author's success in treating ringworm of the scalp by his method The major portion of the book consists of a discussion of the clinical and pathologic features of the disease This part is sketchily and poorly written, and contains less information about the subject than any standard textbook on dermatology The description of Turner's method of treatment of ringworm of the scalp and body occupies a scant three pages of the book In treating infection of the scalp, tincture of iodin oil of cade, 20 per cent ammoniated mercury ointment and 20 per cent resorcin ointment are used sequentially for several days each The author states that from one to fifteen such courses of treatment may be necessary, but that few cases fail to yield to four such courses In treating ringworm of the body he recommends the use of tincture of iodin for three days, to be followed by ammoniated mercury ointment The latter treatment cannot be condemned too strongly, as it is well known that these two drugs, if used together, frequently provoke a severe dermatitis The book can scarcely be recommended as furnishing anything more than an outline of a method of treating ringworm of the scalp by the intensive use of the commonly employed agents

THE EARLY DIAGNOSIS OF THE ACUTE ABDOMEN By Zachary Cope R A M D M S Surgeon to Out Patients St Mary's Hospital Paddington Cloth Price $4 Pp 223 with 28 illustrations New York Oxford University Press 1921

In the first place, exception must be taken to the use of such a monstrosity as the term 'acute abdomen' Such medical slang is unjustifiable in either spoken or written scientific language The proper title for this book should be 'The Early Diagnosis of Acute Abdominal Diseases" While most of the facts in this monograph are well known by surgeons of experience, yet as is stated in the preface 'there are still many who do not appreciate to the full the significance of the earlier and less flagrant symptoms of acute abdominal diseases" For these, for whom the work is written, there is an abundance of practical clinical observations presented in an interesting, scientific, and delightfully clear and concise manner One can hardly agree with the statement on page 5 that "it is acknowledged by those who are acquainted with modern surgical results that the best and only justifiable treatment for cholecystitis is by surgical intervention" Chapter III, on examination of the patient is quite incomplete, and one is struck by the lack of any evident order in performing the examination Many valuable points are brought out however In the description of ruptured gastric ulcer no mention is made of leukocytosis (either in the direct diagnosis or in the differential diagnosis, which is often of great value), blood in the vomitus or roentgenologic examination Fluoroscopic examination not infrequently reveals the escaped air especially if the patient is examined in the upright position when the air is seen as a bright zone between the upper surface of the dark liver shadow and the diaphragm Too much emphasis is placed on obliteration of the liver dulness, caused by the escaped air This finding is rare, and this portion of the chapter gives an entirely erroneous evaluation of this sign The subjects with which the author has apparently had considerable experience are well discussed in the chapter on the early diagnosis of abdominal injuries, but some of the most common conditions are not taken up at all, so that one face to face with his first severe acute traumatic abdominal emergency would not get much real help from this chapter Rupture of the liver is not discussed at all, although it is more frequent than rupture of all the other organs taken together Edler found rupture of the liver in 183 instances, whereas rupture of other parenchymatous abdominal organs was noted in only 176 Rupture of the spleen is similarly not discussed This, likewise, is surprising, when one remembers that, next to the liver, the spleen is the organ most frequently ruptured Geil, in a tabulation of 494 cases in which internal organs were ruptured, found rupture of the liver in 59 9 per cent , of the spleen in 33 per cent , of the kidney in 21 5 per cent , of the intestine in 11 1 per cent , of the stomach in 7 1 per cent , and of the bladder in 4 4 per cent Thus it is evident that the solid organs are much more frequently ruptured than the hollow ones Cope, however, devotes practically all his attention to the latter, and even goes so far as to state that "the solid viscera of the abdomen (liver, spleen, pancreas, kidneys) are situated high up in the abdomen largely under cover of the ribs, the hollow tubes (intestines, bladder, ureter and stomach) are more exposed to injury" In general, however the work is worthy of an accessible place in the library of all internists, general practitioners and beginners in surgery

DIE WASSERSTOFFIONEN KONZENTRATION Ihre Bedeutung für die Biologie und die Methoden Ihrer Messung Teil I Die Theoretischen Grundlagen Von Dr Leonor Michaelis A O Professor an der Universität Berlin Second edition Paper Price, $1 70 Pp 262 with 32 illustrations Berlin Julius Springer 1922

The first edition of this valuable work was published in 1914, and since that time, in spite of the war, the topic it covers has been enormously developed The clinical chemist has come to recognize the importance of quantitative estimations of hydrogen ion concentration, and is no longer satisfied with the mere qualitative statement that a fluid is alkaline or acid Professor Michaelis is recognized as one of the pioneers in this field, and his first edition was an important contribution to its development The second edition is completely rewritten and not merely a reedited book It will continue to be indispensable to all laboratory workers in biologic and medical chemistry This volume merely concerns the theoretical basis of the subject, leaving to a second part the consideration of methods thus permitting a wider consideration of the underlying principles than was given in the first edition

TRAITÉ DE PATHOLOGIE MEDICALE ET THÉRAPEUTIQUE APPLIQUÉE Publié sous la Direction de Emile Sergent Membre de l'Academie de Medecine Medecin de la Charité L Ribadeau Dumas Medecin des hopitaux et L Babonneix Medecin des hopitaux Tome IV Appareil Circulatoire Par Pr Vaquez Lian Heitz Leconte Paper Price 45 francs Pp 1071 with 161 illustrations Paris A Maloine et Fils 1922

This volume represents the current views of the French school concerning diseases of the circulatory apparatus It has been carefully written It is distinctly not a simple compilation, for each of the four authors has put into his writing his own personality and his own views, based largely on clinical observation and investigation Vaquez writes the introductory chapter, Lian treats of diseases of the heart Heitz discusses the diseases of the aorta and arteries, and Leconte discusses diseases of the veins and lymphatic vessels Clarity of style good print and good paper with well chosen and well executed illustrations make the reading of the book a pleasure If a second edition of the book is ever published, it is to be hoped that it will be in two volumes As one, it is too heavy and bulky

HYPERPIESIA AND HYPERPIESIS (HYPERTENSION) A Clinical Pathological and Experimental Study By H Batty Shaw M D F P C I Physician to University College Hospital Cloth Price $6 50 Pp 191 with illustrations New York Oxford University Pres 19_2

Hyperpiesis or hypertension is a sign of the disease hyperpiesia, the pathologic state characterized by cardiac hypertrophy and altered blood vessels The author bases his study on the clinical histories and necropsy findings in fifty cases The clinical features and the origin of the hyperpiesis and of the cardiac hypertrophy are discussed Shaw believes that a toxic substance is responsible The relation of this condition and this unidentified pressor substance to uremia eclampsia, renal changes, infections, convulsions, coma, retinal changes, etc, is taken up As a part of a concluding chapter the therapy of hyperpiesia is briefly considered The book represents thoughtful study, and extended and careful clinical observation and pathologic examination Though

much of it must still be classed as theoretical or speculative, the work is a real contribution to a still imperfectly understood subject

THE PHYSIOLOGY OF GOUT RHEUMATISM AND ARTHRITIS AS A GUIDE TO ACCURATE DIAGNOSIS AND EFFICIENT TREATMENT By Percy Wilde M D Physician to the Lansdown Hospital Bath Cloth Price $3 50 Pp 229 with 31 illustrations New York William Wood & Co 1922

This is an interesting and instructive book, presenting the subjects of gout, rheumatism and arthritis from a point of view not commonly accepted The author is not in sympathy with the theories of excess nitrogenous food or of bacterial invasion as etiologic bases of these conditions, the uric acid theory he considers founded on mistakes He contends that all these conditions are produced by aberrations of physiologic processes rather than by disease and that these aberrations have to do with the production and elimination of lactic acid His contentions are logically propounded, and seem well supported by experiment His therapy is based on the physiology of the skin and its important role in elimination

GLANDS IN HEALTH AND DISEASE By Benjamin Harrow Ph D Associate in Physiological Chemistry College of Physicians and Surgeons Columbia University Cloth Price $2 50 Pp 218 New York E P Dutton & Co 1922

This book is written for the lay, rather than for the medical, reader It is a companion volume to the excellent book on vitamins prepared by the same author It is a safe reserved, clean-cut statement of the scientific knowledge concerning the glands and their functions It is written in a simple, readable style without any of the fantastic hyperbole that has characterized some of the other recent books on this subject It should be serviceable to those physicians who wish a simple introduction to the subject, as well as to the interested layman

WORLD METRIC STANDARDIZATION AN URGENT ISSUE A Volume of Testimony Urging Worldwide Adoption of the Metric Units of Weights and Measures—Meter—Liter—Gram Compiled by Aubrey Drury in collaboration with Clifton Hildebrand, W Mortimer Crocker Harry Allcock M I E E and other Members of the World Metric Standardization Council Cloth Price $5 Pp 524, with illustrations San Francisco World Metric Standardization Council 1922

This volume contains a summary of the testimony gathered by the World Metric Standardization Council during recent years for the purpose of supplying legislators, editors and the public with the facts available, so that they may aid the movement Among the sixteen chapters, those on metric units in the world today, and world metric clues, are valuable as references The book contains an adequate index

A POCKET SURGERY By Duncan C L Fitzwilliams C M G M D Ch M Surgeon in Charge of Out Patients and Lecturer in Clinical and Operative Surgery St Mary s Hospital London Cloth Price $3 75 net Pp 348 New York Longmans Green & Co 1921

Surgery is the most difficult of the clinical branches to teach from a textbook The usual single volume for students is too brief, the "system" is too comprehensive and confusing In using this little volume, one should bear in mind the limitations imposed by the author in the preface It "attempts to give all of the necessary headings and only a short account of the mere details which the student should have learned elsewhere" It is of use for a hasty review, not for detailed study

DOCTORS—E TRE NOUS Short Stories By James Bayard Clark Cloth Price $1 Pp 66 with illustrations New York The Medical Times Company 1922

In this book are collected three stories which originally appeared in "The Medical Pickwick" 'An Unlooked for Conclusion' is a satire on the meeting of the average medical society "How Dr Jones Came Back" is a semihumorous sketch of rather moderate interest 'The Narrow-Minded Layman, the third sketch is a direct attack on the Potter method of version in obstetrics, and on similar radical procedures All will be read with interest by physicians, since the stories deal with problems directly concerned in medical life

Miscellany

THE WEIL-FELIX TEST

The Weil-Felix test for typhus fever has been in use at the New York quarantine station for more than two years during which time 1,698 tests have been made Twenty of these tests were made, say Holt-Harris and Grubbs in *Public Health Reports*, July 14, on clinically positive typhus patients, forty-three in atypical or clinically doubtful cases, and 737 in cases of various acute diseases In all but two of the clinically or atypically positive cases of typhus fever, the first Weil-Felix tests were positive The two negative tests were made early in the disease, and later both became positive It is stated that all cases giving a positive reaction were undoubtedly typhus fever

The Weil-Felix reaction depends on the agglutinating property of typhus serum on certain strains of the *B proteus* group which were isolated by Weil and Felix in 1915 from stool and urine of typhus fever patients The discoverers designated these strains X 2 and X 19 The New York station has used the strain X 19 exclusively A tentative test on a glass slide is made on shipboard, for which a single drop of blood is sufficient The drop of blood is allowed to clot and then mixed with four drops of saline solution placed near it, a drop of this mixture is carried over to three other drops of saline on the slide near by and mixed a drop of the second mixture is then carried over to a single drop of saline placed a little farther along on the slide thus making serum dilutions of 1 5, 1 20, and 1 40 approximately A small amount of a twenty-four hour agar slant culture of X 19 is now placed at the margin of each dilution and emulsified The slide is then rotated on its long axis against a dark background A positive reaction—agglutination—is shown by the appearance of white flocculi which are readily discernible Prompt and complete clumping especially in dilution 1 40, points to typhus fever When the tentative test is positive, the patient is bled from the basilic vein and a confirmative test is made in the laboratory With this method agglutination in dilution 1 40 is regarded as diagnostic of typhus fever It is claimed that the Weil-Felix test not only increases the protection to the country against typhus but is economically important in shortening the delay to commerce, and the traveling public.

BLINDNESS IN THE UNITED STATES

Statistics compiled by the Bureau of the Census on the causes of blindness in the United States show that there are 52 567 blind persons in the country, in 35,788 of whom definite information as to the cause of blindness was obtained In 13,818, or 38 6 per cent of the 35 788 for whom the cause was reported, the blindness was caused by some specific disease of the eye, such as cataract or glaucoma, and in 5 623 cases, or 15 7 per cent, it was a result of some general disease such as measles meningitis or scarlet fever Accidents were responsible for 5 913 cases or 16 5 per cent of the total Of this number 1,429 persons lost their sight through explosives or firearms Cataract, the leading cause was reported by 4 896, or 13 7 per cent Glaucoma ranking next, was reported by 1,932, or 5 4 per cent Atrophy of the optic nerve was given as the cause by 1,756 or 4 9 per cent Ophthalmia neonatorum or 'babies' sore eyes was reported by 1,198, or 3 3 per cent of the total number reported Recent statistics of admissions to schools for the blind show that there has been a marked decrease in the amount of blindness due to this cause These figures show that only 14 7 per cent of the new students admitted in 1917-1918 were reported blind from ophthalmia, as against 24 2 per cent of the students then attending who had entered the previous year This decrease reflects the more general adoption of scientific methods of treatment and especially the routine use of silver nitrate drops in the eyes of infants The campaign to eliminate trachoma also appears to be successful, as trachoma and

sore eyes" together were reported by only 3 per cent of the total for 1920, as against 5 2 per cent for 1910 The causes of blindness, as summarized in the 1920 census are given in the accompanying table

CAUSES OF BLINDNESS,	1920 Number	Per Cent Distribution
Causes		
Total blind persons returning schedules	40 913	
Cause reported	35 798	100 0
Definitely reported causes	26 331	73 6
Specific affections of the eye	13 816	38 6
Cataract	4 896	13 7
Glaucoma	1 932	5 4
Atrophy of the optic nerve	1 756	4 9
Ophthalmia neonatorum	1 198	3 3
Trichoma	555	1 6
Diseases of the retina	497	1 4
Corneal ulcer	264	0 7
Cancer and other neoplasm	247	0 7
Diseases of the iris	240	0 7
Other specific affections	2 231	6 2
General diseases	5 623	15 7
Measles	797	2 2
Meningitis	526	1 5
Scarlet fever	416	1 2
Kidney disease and diabetes	308	0 9
Influenza (grip)	262	0 8
Typhoid fever	253	0 7
Syphilis and locomotor ataxia	252	0 7
Smallpox	235	0 7
Other general diseases	2 584	7 1
Accidents	5,913	16 5
Explosives	797	2 2
Firearms	632	1 8
Falls	445	1 2
Flying objects (not from explosions)	380	1 1
Cutting or piercing instruments	335	0 9
Burns	113	0 3
All other accidental injuries	3 211	9 0
Poisoning	311	0 9
Foreign substances in the eye	431	1 2
All other definitely reported causes	195	0 5
Indefinitely or inaccurately reported causes	9 119	25 5
Congenital (not otherwise specified)	2 635	7 4
Neuralgia	548	1 5
Exposure to heat	507	1 4
Sore eyes	497	1 4
All other	4 932	13 8
Combination of different classes of causes	380	1 1
Cause unknown or not reported	5 125	

MEDICINE IN POLAND

Polish medicine, says Dr W Szumowski, professor in the Cracow Medical School, began in the thirteenth century with Vetellus, a Silesian, who wrote Perspectiva," a work on the anatomy of the eye In the thirteenth and fourteenth centuries, Polish students studied in Paris and Bologna The University of Cracow was founded in 1364, one of its component schools being a medical faculty with two professors Owing to the death of Cassimir the Great, its founder, the school was suspended until 1400, when the university was reinaugurated by Ladislaw Jagello, who gave the university its name Jagellonian The study of medicine was, however, neglected, and sometimes there was not even a professor Physicians in that period usually combined astrology, mathematics and medicine as happened with Martin Krol and Peter Gaszowiec, both professors of medicine in the university, and Nicolas Kopernik, the astronomer and physician, who was a pupil in the same school In the sixteenth century, the Cracow Medical School assumed greater importance, and its most famous character was Mathias de Miechow, also called Miechowita professor of medicine rector of the university and author of several medical, geographic and ethnographic books The only diplomas granted were bachelor and master, the first degrees of doctor being granted in 1527 to three Poles Among famous Renaissance physicians may be mentioned Joseph Strus (Struthius, 1510-1568), who graduated in 1535 at Padua, where he was appointed professor of theoretical medicine At Padua he published his important work on the pulse ("Ars sphygmica"), which was received so warmly that 800 copies were sold in one day His reputation was so great that he was called to attend the two greatest princes of his time, Solyman II and Phillip II Another prominent physician was Sebastian Petrycy (1554-1626), whose sculpture still adorns the scepter of the school A period of decay followed until the reorganization of the school in the latter part of the eighteenth century, when the two chairs were filled by Andrew Badurski and Raphael Czerwiakowski Among modern representatives of the Cracow Medical School may be mentioned Louis Bierkowski (1801-1860), known through his anatomic and surgical charts, Joseph Dietl (1804-1899), a famous clinician and one of those who did most to stop the practice of routine venesection Joseph Majer (1804-1878), a physiologist, first president of the Academy of Sciences of Cracow, Louis Teichmann (1823 1895), professor of anatomy, known through the crystals named after him, and the surgeons Jean Mikulics (1850-1905) and Louis Rydygier (1850-1920)

Another Polish medical school was at Vilna Its most remarkable product was Andrew Sniadecki (1768-1838), a physician biologist and chemist, who began to study medicine at Cracow, and finally graduated in Pavia, Italy On his return to Vilna, he became a professor and one of the most popular physicians in the province His most important work was "Teorja jestestw organicznych" (Theory of Organized Beings) published in 1804, and translated into both German and French His ideas apparently influenced the German biologists John Muller and Wrzosek, and the chemist Liebig The Vilna Medical School remained open until 1840, when it was finally closed by the Russian government

The medical school at Warsaw was founded in 1809 even before the university, which was founded in 1816 It was closed during the 1830 revolution, and remained quiescent nearly thirty years The lack of physicians became acute, and Alexander II permitted the opening of a medicosurgical academy at Warsaw in 1857 In 1862, the academy became a part of the Warsaw Superior School Among its most prominent professors were Titus Chalubinski and Ignace Baranowski In 1869 the Superior School was named Imperial University, and its Russian tendencies were intensified until after the war it passed finally under Polish control

Medical courses were also organized by the Austrian government at Lvow in 1773, the first professor there being Andrew Krupinski A university was established in 1784, but it was soon closed, and the Lvow School was authorized to give only the diploma of 'surgeon" The present medical school was opened in 1894

Medicolegal

Another Court Favors Charitable Hospitals

(Emery v Jewish Hospital Association (Ky) 236 S W R 577)

The Court of Appeals of Kentucky, in affirming a judgment overruling demurrers to the defendant's answer and dismissing the petition in this action by the plaintiff to recover damages for injuries which he alleged that he had sustained through the negligence of the defendant, its servants, agents and employees, while he was employed in operating an elevator on its premises, says that there was no precedent in that jurisdiction on which the rights of the parties having such relations to each other as those in this case could be appealed to for guidance But the conclusion reached is that a charitable corporation, organized and operating under Sections 879-882 of the Kentucky Statutes, for the purpose of conducting a hospital, to which all funds are donated or devised by individuals for the purpose of operating a hospital for the treatment of the poor and needy sick, and are expended for that purpose, no profit or gain accruing to any person from the operation of said institution, is not liable in damages for the negligent acts of its managers, servants or employees, to any persons whatsoever The manager, servant or employee will be liable in damages to any person whom his negligent act in the course of his employment may injure, but the corporation is not liable This principle is adopted for the reason that the funds of such an institution are donated to it or devised to it in trust that they will be expended for the charitable purpose of ministering to the poor and needy sick, and no other, and such a corporation is a trustee of funds for such purposes, and neither it nor its trustees or officers receive any profit from its operation, and while it is not held that, according to the ordinary principles governing the administration of a trust, these funds might not be diverted to the payment of damages incurred in its administration, they should not be

diverted to any such purpose. The diversion of such funds in such a way would probably destroy the institution, and a wise public policy forbids such a result It is to the interest of the public that such institutions be maintained, and a principle which requires that the interest of an individual be subordinated to the good of the public is not a stranger to our legal principles It probably might be said that it is a hard rule which exempts such an institution from liability to a stranger, or to an employee, but it only works the same hardship on a stranger or employee as the principle which exempts a governmentally conducted charity from any liability to them, and the defendant is doing the same service as such an institution governmentally conducted might do

Rules for Determining Percentage of Loss of Vision

(Turpin St Regis Paper Co et al (N Y) 192 N Y Supp 85)

The Supreme Court of New York, Appellate Division Third Department in affirming an award under the workmen's compensation law says that the award was questioned only on the ground that the evidence did not show a loss of 16 per cent of vision, for which the award was made A similar question arose in *Johnson* v *United States Railroad Administration,* 185 N Y Supp 338, in which the question was, what loss of use of an arm had been suffered, and the court said 'There is, of course no method by which the percentage loss of the use of an arm can accurately be determined It is at best a matter of rough estimate and approximation The question is one of fact for the industrial commission to be determined by it on such proof as physicians may give, in accordance however, with its own experience, good sense and judgment" This court thinks this was the correct rule to be applied in this case The court does not think that it should determine whether the Snellen test or some other test furnishes a proper rule for guidance of the board in determining percentage of loss of vision Necessarily some test must be used, but this is only an element of the evidence, and the board must pass upon the evidence determining what evidence it shall accept and what weight shall be given to its various parts By the Snellen test, the claimant's eyes, with the aid of glasses, showed 84 per cent of normal vision, or a loss of 16 per cent Evidence was presented tending to show that this was the measure of the 'direct or central' vision only, while there are other elements of vision that must be taken into account to determine the "useful vision," namely, "field vision" and the "binocular vision' Under this standard of measurement, the claimant's useful vision was found to be 93 5 per cent, showing a loss of 6 5 per cent Although one physician testified that another formula was more accurate than the Snellen test, the board was not bound by the evidence of the expert It was for the board to determine, the nature of the test having been fully explained, which test it should use in determining what partial loss of the use of the eye the claimant had suffered The board was still at liberty to make use of its experience good sense, and judgment in determining what the actual loss was The board may have been of the opinion that the direct vision was the vision most essential to the employee engaged in hazardous employments, and that he was handicapped in his work to the extent that his direct vision was damaged even though his field vision and binocular vision were normal

Cannot Require Examination in Slander Case

(Mann v Bulgin (Idaho) 203 Pac R 463)

The Supreme Court of Idaho says that the plaintiff in this action for slander alleged that on a certain date the defendant in a public address maliciously referred to him as a syphilitic renegade, that the defendant stated that the plaintiff was syphilitic, that he could prove it, that he had in his possession a certificate by a physician to that effect The defendant denied all the allegations of the complaint Thereafter the district judge made an order appointing three physicians to make a physical examination and test of the plaintiff for the purpose of ascertaining whether or not he "has or had or is afflicted with the disease commonly known as syphilis or was or is a syphilitic person' The plaintiff refused to submit his person to the board of physicians so appointed for examination The case being called for trial, the plaintiff again refused to comply with the terms of the order, and thereupon the court entered judgment dismissing the action

In reversing that judgment, the supreme court goes on to say that the language charged in the complaint was actionable per se or in and of itself The only reasonable construction of the language of the complaint was that it alleged that the defendant charged the plaintiff with being syphilitic at the time the words were uttered, otherwise the language charged would not be actionable per se When a complaint charges the use of language which is actionable per se, the falsity of the defamatory word is presumed, and it is not necessary that the plaintiff shall in the first instance offer any proof that the words were false A defense of truth must be specially pleaded, and a plea of justification must be as broad as the charge As the pleadings stood on the trial of this case the defendant was entitled to show the truth of the charge made by proving that at the time the words were uttered, the plaintiff was infected with syphilis Was the defendant entitled to the order of the court requiring the plaintiff to submit his person to examination?

On the question as to whether or not in an action for damages for personal injuries, the court may require the plaintiff in the case to submit to physical examination by a board of physicians appointed by the court and in case of refusal dismiss the action, the authorities in the United States are in hopeless conflict, and are not reviewed here nor is any opinion expressed on that question, as it is considered that the situation in this case was entirely different Here the plaintiff was not suing to recover damages for personal injuries but to recover damages for injury to his good name and reputation caused by the language alleged to have been uttered by the defendant The damage of which the plaintiff complained did not result from the falsity of the alleged charges The damage to him was just as great whether the charges were true or false hence he was relieved of the burden of proving the falsity of the charges But the law would not suffer him to recover damages for injury to a reputation which he did not justly deserve to have Consequently, the defendant could relieve himself from liability for the damage done by proving that the words uttered were true but he must take the entire burden of proving justification on himself This court knows of no rule of the common law or statutory provision of the state of Idaho which authorizes the court to enter an order requiring a plaintiff who has been damaged in his good name and reputation to submit to physical examination, in order to supply a defendant with the means of proving that the statements made by him were true

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Oto Laryngology Minneapolis Sept 19 23 Dr Luther C Peter 1529 Spruce St Philadelphia Secy

American Association of Obstetricians Gynecologists and Abdominal Surgeons Albany N Y Sept 19 21 Dr James E. Davis 111 Josephine Ave Detroit Secretary

American Electro Therapeutic Association New York Sept 19 22 Dr A Bern Hirsh 71 W 94th St New York Secretary

American Roentgen Ray Society Los Angeles Sept 12 16 Dr H E. Potter 122 S Michigan Ave., Chicago Secretary

Colorado State Medical Society, Colorado Springs Oct 3 5 Dr F B Stephenson Metropolitan Bldg Denver Secretary

Indiana State Medical Association Muncie Sept 27 29 Dr Charles N Combs Terre Haute Secretary

Medical Association of the Southwest Hot Springs Ark Oct 4 6 Dr W H Bailey 115 West 21st Street Oklahoma City Okla Secy

Missouri Valley Medical Society of the St Joseph Mo Sept. 21 22 Dr Charles W Fassett 115 E 31st St Kansas City Mo Secretary

Nevada State Medical Association Reno Oct 6 7 Dr Horace J Brown Goldfield Secretary

Pennsylvania Medical Society of the State of Scranton Oct 2 5 Dr W F Donaldson Jenkins Arcade Pittsburgh Secretary

Utah State Medical Association Salt Lake City Aug 31 Sept 2. Dr W L. Rich Boston Bldg Salt Lake City Secretary

Washington State Medical Association Tacoma Sept 5 6 Dr C H Thomson 508 Cobb Bldg Seattle Secretary

Wisconsin State Medical Society of Green Lake Sept 6 8 Dr Rock Sleyster Wauwatosa Secretary

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

American Journal of Diseases of Children, Chicago

July 1922 24 No 1

Bilateral Hypoplastic Cystic Kidneys Report of Case Simulating Chronic Diffuse Nephritis in Girl Three Years of Age C H Greene Rochester Minn —p 1

Ultraviolet Radiation in Rickets Effect on Calcium and Inorganic Phosphorus Concentration of Serum B Kramer H Casparis and J Howland Baltimore —p 20

Thymus Apoplexy An Unusual Manifestation of Hemorrhagic Disease of Newly Born H R Wahl and D Walthall Rosedale Kan —p 27

Food Requirements of Children IV Carbohydrate Requirement I F Holt and H L Fales New York —p 44

Food Requirements in New Born Infant Study of Spontaneous Intake H K Faber San Francisco —p 6

Data in Three Thousand Seven Hundred and Forty Two Pirquet Tests S McLean New York and H Jendell Salt Lake City —p 73

Vital Capacity of Lungs of Children C V Stewart Minneapolis and O B Sheets Hollywood Calif —p 83

Neuropathic Manifestations in Infants and Children as Result of Anaphylactic Reaction to Foods Contained in Their Dietary W R Shannon, St Paul —p 89

Bilateral Hypoplastic Cystic Kidneys—A case simulating chronic diffuse nephritis, occurring in a girl, 3 years of age is reported by Greene Clinically, the findings were those of a long standing renal insufficiency and were identical with those seen in cases of typical chronic interstitial nephritis The family history was negative The condition was present from birth, but symptoms of renal disturbance first appeared at the age of 8 months At this time the child had convulsions that probably marked the first of a series of uremic attacks Following the convulsions, the patient was put on a faulty diet and evidences of rachitis followed Blood smears showed a pronounced secondary anemia The remarkable clinical improvement following a single transfusion is of interest This is especially so since there apparently was no great stimulation of the hematopoietic system The increase in the erythrocyte count lasted for about a month, which corresponds well with the average life of the transfused blood corpuscle During this period there was a great improvement in the general condition of the patient and even a slight increase in the phenolsulphonephthalein output, indicating that the kidneys were functionally benefited by the general improvement The specific gravity of the urine was low, the limits of variation being from 1 005 to 1 012 Albumin was present in the urine throughout the whole period of the disease The amount was increased during the uremic attacks, but was never large No Bence-Jones or protein body other than serum protein was demonstrable in the urine Casts were absent even during the terminal stages of the disease Death was due to uremia, though starvation acidosis undoubtedly was a contributing factor The pathologic picture was that of bilateral hypoplasia of the kidneys with cyst formation The renal tubules were characterized by marked cystlike dilatations, especially in the proximal convoluted tubules There was no evidence of obstruction and the dilatation apparently was secondary to functional hypertrophy of the tubules

Ultraviolet Radiation in Rickets—Five children showing clinical evidences of rickets confirmed by roentgenographic examination of the bones, were treated by Kramer et al by systematic exposure to the rays from the mercury vapor quartz lamp This was followed in every instance by healing of the rachitic process in the bones The inorganic phosphorus concentration of the serum of these children was low (from 2 7 to 3 2 mg) before the treatment was begun and gradually increased to a maximum of 6 mg with the appearance of calcium deposition in the bones So far as could be judged, healing of the bones following radiation occurred at about the same time as it does after the administration of cod liver oil The changes in the phosphorus concentration of the serum were identical with those observed after cod liver oil treatment The pigmented skin of the negro child did not interfere with the action of the light rays The colored children required no more intensive treatment to bring about healing than did the white children

Thymus Apoplexy—The two cases reported by Wahl and Walthall are similar in many respects Symptoms of meningeal irritation, lateral nystagmus and generalized icterus were present in both infants Labor, while not normal, was not unduly difficult or prolonged in either case In both cases there was a marked increase in the coagulation time of the blood In each case the necropsy showed a cerebral hemorrhage, inflammatory changes in the lungs suggestive of syphilis and a diffuse hemorrhagic infiltration of the thymus in which the extravasation of blood was both intralobular and interlobular and was associated with suppuration, necrosis and marked proliferation of the reticular epithelial cells The cases differ in that the second patient was aged 6 weeks and the first 4 days In the first case, the hemorrhages were more generalized and extensive, labor was more difficult, the immediate cause of death was cerebral hemorrhage In the second case, bronchopneumonia was probably the more immediate factor causing death In both cases the Hassall's corpuscles were numerous but in the first case they were dilated and often contained a purulent exudate forming early DuBois abscesses On the other hand, the second case showed a striking perivascular inflammatory reaction with swelling of the vascular endothelium and also marked thrombophlebitis of the smaller veins One of the large veins in the first case was partly occluded by a thrombus The condition seems to be associated with syphilis more than any other factor, but circulatory stasis, trauma nonspecific infections and a hemorrhagic tendency are contributing, if not the main factors in some cases There is no way of making a clinical diagnosis

Carbohydrate Requirement of Children—The carbohydrate intake of more than 100 healthy children, from 1 to 18 years of age, studied by Holt and Fales, averaged 10 gm per kilogram A diet excessive in carbohydrate leads to an abnormal deposition of fat without a corresponding increase in muscle development Children taking such a diet have feeble resistance to infection There is evidence that a relationship exists between the high proportion of carbohydrate in the modern diet and the prevalence of dental caries Definite digestive disturbances chiefly intestinal may be produced when the carbohydrate in the diet is excessive There may result increased fermentation with loose acid stools or constipation with flatulence and abdominal distention When long continued these disturbances are very difficult to control

Neuropathic Manifestations in Children a Food Anaphylaxis—Eight cases showing marked evidences of the presence of the so called neuropathic diathesis in infants and children are presented by Shannon In four of these cases definite evidence of the exudative diathesis was also present while in another case there was a positive history of such a condition in the past The remaining three cases gave no evidence suggestive of the presence of an exudative diathesis All the patients showed the presence of protein sensitization by cutaneous tests All showed definite relief from the nervous symptoms on the institution of specific therapy directed at the proteins to which they were sensitive In all but one of the eight cases the proteins concerned were those of foods contained in the dietaries of the patients In one case animal emanations of pollen proteins might have played a part In one case the nervous symptoms could be relieved or brought on by the exclusion from or the addition to the diet of the food to which the patient was sensitive Evidence is presented showing that anaphylaxis is a sound, theoretic basis for the explanation of many of the symptoms of the so called neuropathic diathesis

American Journal of Public Health, Chicago

July 1922 12, No 7

Two Twilight Zones in Health Administration F R Kelley —p 561

Recent Applications of Principles of Nutrition H Vaille and J C Merrill Paris —p 568

Results of Health Program in Summer Play School H Harap New York —p 594

New Venture in School Medical Inspection G T Palmer Detroit p 599

Determination of Value of Certain Soaps in Disinfecting Wall and Floor Surfaces J. R. Conover and J. L. Laird, Philadelphia.—p. 602
Sanitary Condition of Confections. F. W. Tanner and E. Davis, Urbana, Ill.—p. 605
Effect of Peptone on Toxigenic Property of Diphtheria Bacillus. No. 8. H. L. Wilcox, New York.—p. 608

American Journal of Roentgenology, New York

July 1922, 9, No. 7

Production of Penetrating Roentgen Rays. W. Duane, Cambridge, Mass.—p. 391
Supernumerary Pedal Bones. M. I. Bierman, St. Louis.—p. 404
Recto-sigmoid Apparatus. H. W. Soper, St. Louis.—p. 412
*Roentgenologic Findings in Mongolism. M. W. Clift, Flint, Mich.—p. 420
Standardization of Roentgen Ray Reports. P. M. Hickey, Detroit.—p. 422
Roentgenology and Internal Medicine. L. F. Barker, Baltimore.—p. 425
*Appendicitis Due to Foreign Bodies in Lumen of Appendix. J. T. Murphy, Toledo.—p. 437
Some Practical Results with Potter-Bucky Diaphragm. R. B. Wilsey, Rochester, N. Y.—p. 441

Roentgenologic Findings in Mongolism.—The only condition which may be considered as in any way characterizing the roentgenologic picture of mongolism according to Clift is the disproportionate developmental deficiency on the part of nose and maxilla. As regards the sella turcica, the findings are far from uniform. The sella differs in shape in about the same ratio as in normal persons. In fact, there is no single characteristic roentgenologic sign in this disease, and the only departure from normal is a generalized delay of bone development. This feature, except for a slight selective character on the part of the nose and maxilla, is common to a number of other diseases, some of endocrine origin and others due to obscure causes.

Foreign Bodies in Appendix.—Murphy reports two cases of appendicitis in which a pin was found in the appendix. One patient, a child, aged 17 months, nine months previously swallowed a pin. The roentgen ray showed the pin in the region of the ileocecal valve.

Archives of Dermatology and Syphilology, Chicago

July 1922, 6, No. 1

*Erythema Multiforme Confined to Mucous Membranes. J. Butler, Minneapolis.—p. 1
Cutis Verticis Gyrata (Unna). E. A. Oliver, Chicago.—p. 6
Hemangiosarcoma of Skin. A. M. Greenwood, Boston, and T. K. Lawless, Chicago.—p. 10
Adenoma Sebaceum and Tuberose Sclerosis of Brain. G. M. Olson, Minneapolis.—p. 21
*Morphea Associated with Hemiatrophy of Face. E. D. Osborne, Rochester, Minn.—p. 27
Acnitis: Report of Case. H. E. Alderson, San Francisco.—p. 35
*Studies on Blood Cholesterol in Syphilis. A. R. McFarland, Rochester, Minn.—p. 39
*XXVI. Results in Treatment of Wassermann Fast Syphilis by Intravenous Mercuric Chlorid. A. H. Conrad and C. H. McCann, St. Louis.—p. 50
*Salol in Smallpox. J. A. K. Birchett, Jr., and S. R. Lustberg, Vicksburg, Miss.—p. 55
Syphilis of Salivary Glands. J. E. Kemp and J. E. Moore, Baltimore.—p. 57

Erythema Multiforme of Mouth.—Two cases of severe stomatitis are cited by Butler. The mouth, tongue, and labial membranes were involved equally in both patients. The skin was normal in every respect. Two days following the examination one patient had beginning erythematosus patches on the dorsal aspect of the hands and feet that quickly developed into typical bullous lesions, and these made a correct diagnosis an easy matter. The other patient clarified the situation by saying that he, too, had suffered similar outbreaks on his hands and feet together with associated mouth lesions during the two preceding years, both attacks occurring in the spring, and attributed by him to plowing in the fields during rainy weather. Careful observation of this patient throughout the course of his illness failed to reveal any skin manifestations of the disease.

Morphea with Hemiatrophy of Face.—In the six cases reviewed by Osborne the evidence points strongly to involvement of the central nervous system. The history of trauma from four months to six years preceding the onset of symptoms in four of the cases, the necropsy findings of Steven and the neurologic findings suggesting an old inflammatory process in the brain of one of the patients, are all incriminating evidence. The close relationship between facial hemiatrophy and morphea is emphasized by the common etiologic factors involved and in the similarity of skin changes seen in the two conditions.

Blood Cholesterol in Syphilis.—The positive Wassermann reaction on the blood, McFarland asserts, apparently does not depend on high cholesterol value. Blood cholesterol values in syphilitic patients, in general, tend to be medium and low rather than high. The amount of arsphenamin given and the time between injections do not obviously affect the blood cholesterol values. There is, apparently, no relation between the cholesterol values and the clinical and serologic response of the patient. The only recognizable relation between the clinical type of syphilis and blood cholesterol values is the large proportion of high cholesterol estimations in syphilis of the central nervous system.

Intravenous Administration of Mercury in Syphilis.—Results obtained in the patients whom Conrad and McCann have treated lead them to believe that, in those cases in which the routine treatment has failed to reduce the Wassermann reaction or improve the clinical symptoms, mercury administered intravenously should be given a fair trial. Advantages claimed for this method over other modes of mercuric injections are that quicker results in treatment are obtained, a more accurate grading of dosage is made possible, the course of the disease can be more carefully observed, and a practically painless injection is assured the patient.

Salol in Smallpox.—The action of phenyl salicylate in smallpox was studied by Birchett and Lustberg. Salol, 10 grains four times a day, was the sole medicament used and careful observations were made of results. It was noted that the patients who began the medication in the preeruptive stage were left with only a few scars, and even those receiving the medicament during the eruptive stages showed less scarring than those who received no therapy. The severe confluent forms left a surprising aftermath. Some scarring, of course, remained as a remnant of the disease, but far less disfigurement than is usually seen in such cases.

Boston Medical and Surgical Journal

July 1, 1922, 187, No. 2

Digitalis in Cardiac Disease. H. A. Christian, Boston.—p. 47
Quackery, Miracle Healing and Medical Cults. R. W. Lovett, Boston.—p. 53
Gummatous Cervical Adenitis. W. P. Coues, Boston.—p. 62

Digitalis in Heart Disease.—The dangers or toxic effects of digitalis, Christian states, are more serious as met with in medical books than in medical practice. Some one of these toxic effects or so-called digitalis dangers really should be sought rather than avoided in digitalis therapy. The real dangers in digitalis therapy are three: (*a*) Using a poor digitalis preparation; (*b*) Consciously or unconsciously prescribing too little of a potent digitalis preparation; (*c*) Not knowing when digitalis should be started and stopped. Digitalis usually is given in too small, i. e., insufficient dosage. Christian says he has yet to see the patient in whom too much digitalis had been given prior to seeing the patient. The large majority of cardiac patients seen by him have had too little digitalis, a small percentage have had enough digitalis, none have had too much, some have had too little from the point of view of dosage when actually they should have had none. Digitalis poisoning, of course, is possible, but it is one of the rarities of medicine. Digitalis is good for the symptoms and physical signs the patient has provided those symptoms and signs are the result of cardiac insufficiency, i. e., decompensation. The indications for starting digitalis therapy are the presence of symptoms and physical signs which are the result of cardiac inefficiency, i. e., decompensation. The symptoms and physical signs of cardiac insufficiency are breathlessness, cough, cyanosis, edema, pain, weakness, nausea, vomiting, enlargement of the liver, decreased urine output, rapid pulse. The indications for stopping digitalis are improvement in these symptoms and signs or the occurrence of some of the toxic effects of digitalis. The toxic effects of digitalis are nausea, vomiting,

certain arrhythmias, as bigeminal pulse and heart block, rarely diarrhea. It needs to be recognized that very often the digitalis which the patient purchases has but slight potency. A serious error is to regard a drop as a minim and to prescribe 15 drops of tincture of digitalis, thinking to give 15 minims, the patient taking 15 drops often gets but 5 minims, rarely more than 7 minims—both very small doses. This error accounts for much unconscious prescribing of too small a dose. The rest comes from the digitalis being of low potence. There should be definite evidences of cardiac insufficiency before digitalis is given. Increased heart rate alone is never the result of cardiac insufficiency and never the indication for digitalis therapy. Paroxysmal tachycardia does not respond to digitalis and digitalis does not affect simple tachycardia. No murmur of whatsoever sort, nor enlargement of the heart, in itself is an indication for digitalis therapy. Digitalis may be given in a single massive dose, or in a modified massive dose method, or in regularly repeated small doses. Any of these methods is effective. The chief difference lies in the length of time needed to produce a result. For the average cardiac case there is no real preference. In a few very severe cases the modified massive dose method is better. Occasionally the single massive dose may be life-saving. Digitalis therapy is very simple. Enough of a potent leaf prepared in any way, should be given by any accepted method of dosage, and the result is most satisfactory in almost every case. Standardizing on animals is helpful but by no means essential.

July 20 1922 **187** No 3

Management of Cancer of Bladder. G. G. Smith, Boston.—p. 97
Nutritional Disorders in Light of Recent Investigations. A. F. Hess, New York.—p. 101
Skin Irritants: External and Internal. C. G. Lane, Boston.—p. 108
Treatment of Fracture Involving Lower End of Radius with Anterior and Posterior Wooden Splints. T. K. Richards, Boston.—p. 113
Two Cases of Early Carcinoma of Uterus Treated by Vaginal Panhysterectomy. L. F. Phaneuf, Boston.—p. 115

Cancer of Bladder—Smith asserts that all tumors of the bladder (barring some varieties, as fibromas) are potentially, if not actually, malignant, that early diagnosis by means of the cystoscope is the first requisite for successful treatment. Every misbehaving bladder should be considered guilty until it is proved innocent. The methods of treatment consist of fulguration, radiation by means of implantation of radium, excision of the tumor, total cystectomy, or, in hopeless cases, cauterization and permanent suprapubic drainage. The particular measure or combination of measures selected depends on the type of tumor which is disclosed by careful study of the case.

Panhysterectomy for Early Carcinoma of Uterus—One of Phaneuf's cases was a borderline case in which the disease was discovered only by examination of curettings from the uterus, the other case was an epidermoid carcinoma grafted on a procidentia of many years' standing. Both patients were subjected to vaginal panhysterectomies and made uneventful recoveries.

California State Journal of Medicine, San Francisco

July 1922 **20**, No 7

Some Practicable Problems Confronting Medical Profession. H. G. Brainerd, Los Angeles.—p. 215
Medical Education of Present and Near Future. R. L. Wilbur, San Francisco.—p. 218
Provisions of Workmen's Compensation Act of California Relative to Furnishing of Medical Treatment in Compensation Cases. W. H. Pillsbury.—p. 221
Problems of Industrial Accident Insurance. J. H. Parkinson, Sacramento.—p. 222
*Successful Removal of Extramedullary Cord Tumor in Lower Dorsal Region Causing Severe Compression Symptoms; Recovery. W. T. Schaller and A. Weeks, San Francisco.—p. 224
Clinicians Past, Present and Future. H. C. Moffitt, San Francisco.—p. 229
Fundamental Factors in Etiology and Treatment of Chronic Intestinal Disease. H. F. Freidell, Santa Barbara.—p. 232
Group Medicine: Its Value to Profession and Public. D. J. Frick, Los Angeles.—p. 234
Pathology and Bacteriology of Excised Tonsils and Effect of Roentgen Ray Therapy on Bacterial Flora of Tonsils. T. R. Nuzum, Santa Barbara.—p. 237
Modern Hospital on Pacific Coast. J. B. Cutter, Watsonville.—p. 239

Extramedullary Cord Tumor in Lower Dorsal Region—The outstanding features in the case cited by Schaller and Weeks were: onset with severe dorsal root pain, followed by motor loss in left lower extremity and evidence of both cord and root compression below the ninth dorsal cord segment, progressive paraplegia by involvement of right lower extremity, predominant flexor "shortening" paralysis, bilateral pathologic pyramidal tract signs and heightened tendon reflexes in lower extremities, positive Beevor sign, superficial sensation affected below the tenth dorsal root distribution for pain and temperature, deep sensation affected particularly for vibration sense, reflex movements of defense present, absence of sphincter involvement, colonic crises, compression syndrome in cerebrospinal fluid, at operation complete removal of an intradural glioma at the eleventh dorsal cord segment, convalescent period complicated by anemia, toxic polyneuritis, decubitus, ultimate complete recovery.

Bacteriology of Excised Tonsils—Of 218 pairs of tonsils removed, 7 per cent presented no microscopic evidence of disease. 96.1 per cent harbored hemolytic streptococci. Of the three groups of hemolytic streptococci, alpha, alpha prime and beta, the latter were found much more frequently. There seemed to be a relation between the pathology of the excised tonsil and the type of organism it harbored. Poured plates were found much more satisfactory than streaked plates. Roentgen-ray therapy was effective in reducing the size of the tonsils in but 16 per cent of this series. Hemolytic streptococci, the essential organisms in chronically infected tonsils, were permanently removed in but 50 per cent of the patients treated.

Canadian Medical Association Journal, Toronto

June 1922 **12**, No 6

Broadening Scope of Mental Medicine. A. T. Mathers, Winnipeg.—p. 371
Symptoms in Diagnosis of Pulmonary Tuberculosis. J. H. Elliott, Toronto.—p. 377
Differential Diagnosis. J. H. Elliott, Toronto.—p. 379
Tuberculosis Survey of 1346 School Children in Saskatchewan. R. G. Ferguson, Fort Qu'Appelle, Sask.—p. 381
Ergot Quinin and Pituitary Extract. A. H. Wright, Toronto.—p. 383
*Metabolic Findings in Diagnosis and Treatment of Diseases of Thyroid. G. S. Fahrni, Winnipeg.—p. 386
Intestinal Obstruction. H. W. Riggs.—p. 390
Creatinuria in Certain Diseased Conditions. A. T. Cameron and A. Gibson, Winnipeg.—p. 393
Intravenous Injection of Mercurosal in Treatment of Syphilis. W. T. Williams, Toronto.—p. 401
Place of Drugs in Medical Treatment. D. S. Lewis.—p. 402
Cesarian Section: Four Cases. A. Mackinnon, Guelph, Ont.—p. 405
Roentgen Ray Examination of Pulmonary Tuberculosis. H. M. Tovell, Toronto.—p. 408
New Order. G. Jackson, Toronto.—p. 411
Carcinoma of Prostate. J. C. McClelland, Toronto.—p. 415
Obiter Scripta. C. F. Martin.—p. 418
Incubation Period of Lethargic Encephalitis: Case Developing Within Five Days of Exposure. F. Godfrey, Mimico, and N. B. Gwyn, Toronto.—p. 420
Etiology of Cancer. W. Boyd.—p. 421

Tuberculosis in Children—A survey made by Ferguson of 1,184 white children disclosed that ten, or 0.84 per cent, showed clinical signs, symptoms and roentgen-ray evidence of active tuberculosis. These children were advised to take treatment in the sanatorium. Thirty, or 2.5 per cent, showed signs or symptoms more or less suspicious of activity. These children were referred to their family physician for observation.

Metabolism in Diseases of Thyroid—In a series of 105 persons, thirty-eight or 36.19 per cent, had normal metabolic rate; sixty-two or 59.09 per cent, had abnormally high metabolic rate, while five, or 4.76 per cent, had abnormally low rate. In analyzing the group of thirty-eight cases with normal metabolic rate, the final diagnoses come under the following heads in order of frequency: nontoxic goiters of different types, psychoneuroses, obesity and mental defectives, incipient tuberculosis, essential hypertension and so-called goiter wreckage cases. In the group of sixty-two cases with hyperthyroidism, Fahrni is convinced that many could not have been diagnosed definitely without the knowledge of existing basal metabolism. In the third group, that

of hypothyroidism, were found five very definite cases of myxedema There was no familial tendency in this group of five, and the origin was apparently spontaneous, with no history of degenerative or inflammatory disease of the thyroid gland nor of operation on the gland

Georgia Medical Association Journal, Atlanta

July 1922 11 No 7

Eczema Parasiticum J W Jones Atlanta —p 253
Acute Mastoiditis M H Stuart Moultrie —p 255
Typhus in Siberia H M Davison Atlanta —p 258
Medical Sects in United States and Abroad N Alpert Atlanta —p 263
*Knife Blade in Brain T C. Davison Atlanta —p 267
Compensation F Hames Atlanta —p 269

Knife Blade in Brain—Davison's patient was stabbed in the left side of the head with a pocket knife, the blade penetrating the skull and was broken off Three days following the injury, the patient became dizzy, "turned sick and blind for the time being On the seventh day, the patient noticed a tingling in the foot, leg and hand on the right side which developed into a numbness and paralysis He lost control of his urine and stool the latter part of the second week He does not remember events during the third week and has only a hazy recollection of being brought to the hospital three weeks following his injury Roentgen-ray examination showed the knife blade 1⅛ inches in length, in the skull, in the left rolandic area When the section of the skull was lifted the dura was exposed showing the opening by the blade through which exuded a thick greenish-yellow pus The brain was not pulsating in this area A crucial incision made in the dura exposed an abscess the size of a small hen's egg Normal pulsation of the brain returned following evacuation of the abscess Six hours following operation tingling returned in the foot, leg and arm and the patient could move the foot slightly In twelve hours sensation was returning and he could move the arm and leg slightly Twenty-four hours after operation he could move the leg freely, sensation was improving rapidly and he could move the arm but not so well as the leg Sensation returned rapidly to the right side with some hyperesthesia in arm and leg The patient was dismissed from the hospital seventeen days following the operation with good use of himself, except slight incoordination of the muscles of the right hand and arm and slight right sided facial paralysis

Illinois Medical Journal, Oak Park

July 1922 42, No 1

Maternal Death Statistics C E Mongan Somerville Mass —p 1
Value of Pyelography Before Undertaking Surgical Measures for Relief of More Obscure Types of Abdominal Pain V J O'Conor Chicago —p 9
Legislation and Its Effect on Medical Profession J R Neal Springfield —p 13
Dose of Radium H Robarts Belleville —p 15
Thoracoscopy and Its Practical Importance Especially in Surgery of Chest H C Jacobaeus Stockholm Sweden —p 17
Intranasal Injection of Alcohol in Treatment of Hyperesthetic Rhinitis and Some of Nasal Neuroses O J Stein Chicago —p 22
Omental Cap Over an Acute Appendix R L Fisher Chicago —p 2
Asphoiditis J K Narat Chicago —p 27
What Shall We Do to Be Saved—Professionally? C W Lillie East St Louis —p 28
Penetrating Injuries of Eye by Steel Particles F Allport Chicago —p 31
Orthopedic Surgery Have Present Advanced Methods in Diagnosis and Treatment Reduced Morbidity or Lessened Period of Disability J L Wiggins East St Louis Ill —p 35
Clinical Interpretations of Basal Metabolism Test H Swanberg Quincy —p 39
Suprapubic Prostatectomy J S Eisenstaedt Chicago —p 41
Roentgen Ray in Diagnosis of Certain Gastro Enteric Lesions L S Goin Peoria —p 44
Vomiting of Gallstones M Pfeiffenberger Alton —p 51

Journal of Bone and Joint Surgery, Boston

July 1922 4 No 3

Specialist in Surgery and His Viewpoint N Allison St Louis —p 421
*Chronic Arthritis L. T Swaim Boston —p 426
*Operative Treatment of Scoliosis A M Forbes Montreal Can —p 416
Intraperineural Neurotomy in Spastic Conditions J J Nutt New York —p 453
*Unusual Fractures C W Peabody Boston —p 459
Flat Hand (Manus Planus) Its Correction Essential to Normal Function of Hand J E Goldthwait Boston —p 469
Open Reduction of Old Congenital Hip Dislocation M A Bernstein Chicago —p 481
Bone Destruction in Joints A W Meyer Palo Alto Calif —p 491
Bone Sarcoma J W Gibbon Charlotte N C —p 512
Osteoma of Cervical Spine M S Henderson Rochester Minn —p 518
Treatment of Congenital Dislocation of Hip as Practised by Professor Denuce at Bordeaux France J B Adams Boston —p 523
Tendon Transplantation for Musculospiral (Radial) Nerve Injury R W Billington Nashville Tenn —p 538
Postoperative Care of Flexion Contraction of Hip S F Stewart Los Angeles —p 548
Painful Traumatic Shoulder A Gibson Winnipeg Man —p 557
Congenital Ankylosis of Joints of Hands and Feet I M Miller Chicago —p 560
Simplified Method of Measuring Amplitude of Motion in Joints N C Rosen New York —p 570
Spinal Pathology in Relation to Ocular Manifestations with Report of Cases C L Lowman Los Angeles —p 580
Operation for Hypertrophied Patella G L Bennett Baltimore —p 59
Clinical and Experimental Study of Free Transplantation of Fascia and Tendon W E Gallie and A B Le Mesurier Toronto —p 600

Chronic Arthritis—Swaim emphasizes the fact that there are three distinct types of arthritis infectious atrophic and hypertrophic and that these types differ etiologically pathologically and clinically respond to treatment differently and should, therefore be differentiated Clinical data seem valueless unless these types are studied as separate pathologic entities

Operative Treatment of Scoliosis—Although operative procedures for scoliosis cannot be considered to have the test of time, Forbes believes they have been sufficiently encouraging to continue their employment The day may come when the field of usefulness of operative procedures may be extended but he hesitates to recommend their general use because the operation is a severe one It should not be carried out except after deep thought and consideration and then only by those who are accustomed to operate on the spine Perhaps at a later date its field of usefulness will be broadened but until it is possible to prove the enduring character of the ankylosis and the general benefit to the patient as shown by increased height and marked improvement in general condition it should not be employed except in desperate cases

Unusual Fractures—One of Peabody's cases presented the 'cartwheel fracture of the textbooks in which the leg is caught in a revolving wheel the resulting torsion completely disrupting the lower end of the femur from the shaft at the epiphyseal line The patient was not caught in a cartwheel, but was knocked down by a motor car, and in addition the break had the complication of being compound from the protrusion of the shaft through an external wound The second case was a fracture of the spine at a most uncommon point and producing a skiagraphic impression which is rather startling The neural arches of the first lumbar vertebra were fractured between the superior and inferior articular processes the fragments separating as the spine hinged in flexion on the disc in front so that the first glance at the roentgenogram gave the impression of complete loss of bony continuity in the spinal column The last patient, thrown from his horse was caught under the falling animal, with a consequent rupture and complete dislocation of the pubic synchondrosis, the two halves of the pelvis, rotating in opposite directions at the sacroiliac articulations, produced a fracture of both transverse processes of the fifth lumbar vertebra

Sarcoma of Femur—Gibbon reports the case of a boy, aged 16, who had a tumor of the lower end of the right femur which proved to be a large round cell sarcoma Within three weeks after curettage the patient came back complaining of a return of severe pain On examination it was evident that the tumor had recurred locally and was infiltrating the soft parts on the inner side of the knee, where there was a considerable swelling That this was then a rapidly growing sarcoma clinically seemed to be a just conclusion and amputation was advised The parents, however, refused this and again all of the tumor tissue possible was removed, and the area cauterized with phenol followed by alcohol Three weeks later the leg was amputated in the upper third of the thigh a local recurrence having again

occurred at about the end of three weeks Roentgenograms of the thorax at this time showed no metastases The boy is well six months after the amputation

Journal of Experimental Medicine, Baltimore

July 1 1922 **36**, No 1

*Megacaryocytes in Peripheral Circulation G R Minot, Boston —p 1
Experimental Epidemiology S Flexner, New York —p 9
Outbreak of Mouse Typhoid and Its Attempted Control by Vaccination C J Lynch New York —p 15
Experimental Epidemiology I Artificially Induced Epidemic of Mouse Typhoid H J Amoss New York —p 25
Id II Effect of Addition of Healthy Mice to Population Suffering from Mouse Typhoid H J Amoss New York —p 45
Experiments on Normal and Immune Mice with Bacillus of Mouse Typhoid L T Webster New York —p 71
Identification of Paratyphoid Enteritidis Strain Associated with Epizootics of Mouse Typhoid L T Webster New York —p 97
Immunologic Distinctions of Two Strains of Mouse Typhoid Group Isolated During Two Spontaneous Outbreaks Among Same Stock H L Amoss and P P Hiselbauer New York —p 107
Surface Tension of Serum III Recovery After Lowering by Surface Active Substances P Lecomte du Nouy New York —p 115
Infectious Motor Paralysis in Young Rabbits J H Wright and J M Craighead Boston —p 135
Structure and Differentiation of Specific Cellular Elements of Pars Intermedia of Hypophysis of Domestic Pig S Maurer and D Lewis Chicago —p 141

Megacaryocyte in Peripheral Circulation—Minot points out that a megacaryocyte is seen commonly as an occasional cell in the peripheral blood of patients with myelogenous leukemia Less commonly they appear in relatively large numbers These giant cells also may occur in the blood under other conditions Their presence is indicative of a bone marrow under intense strain

Experimental Infectious Motor Paralysis—The attempt made by Wright and Craighead to infect young rabbits and guinea-pigs with material containing in all probability the virus of human infantile paralysis failed Incidentally, and presumably accidentally, a paralytic disease hitherto undescribed was observed in young rabbits associated with the presence of an organism showing certain definite characters This organism is found widely distributed in the organs of the affected animals and can be demonstrated in the urine The active destruction by the organism of the nerve cells of the spinal cord is particularly striking, and gives complete explanation for the paralysis observed clinically With the organism present in the urine the spread of the disease by contact can easily be understood The transfer of the infection from animal to animal by fleabites is possible but not probable The nature of the observed organisms is in doubt They represent probably an intermediate stage in the life history of some protozoan parasite.

Journal of Industrial Hygiene, Boston

July 1922 **4**, No 3

Undernourishment in Industry I W H Bunn —p 93
German Literature on White Lead Question 1921 L Teleky —p 100
Back and Foot Strain P D Wilson —p 106
Occupational Sickness Review E A Rusher —p 125

Journal of Pharmacology and Experimental Therapeutics, Baltimore

July 1922 **19** No 6

*Biologic Reactions of Arsphenamin III Immediate Toxicity as Contrasted with Late III Effects, and Role of Agglutination in Production of Former J Oliver and S S Yamada, San Francisco —p 393
*Studies on Strychnin S Weiss and R A Hatcher New York —p 419

Immediate Toxicity and Late Ill Effects of Arsphenamin—Oliver and Yamada state that disodium arsphenamin may produce ill effects by means of either its physical or its chemical properties The physical toxicity produces an early reaction and is the result of intravascular agglutination of the red cells and multiple embolism The chemical toxicity requires some time for the production of anatomical lesions These consist of parenchymatous degenerations particularly in the kidney and liver

Studies on Strychnin—Studies were made by Weiss and Hatcher on a method for the extraction of small amounts of strychnin from tissues the absorption of strychnin by red corpuscles of the cat, the rate of disappearance of strychnin from the blood stream of the cat and the elimination of strychnin in the urine of man The liver appears to be the principal protective organ with reference to acute poisoning by strychnin, the kidney to be concerned mainly with the elimination of traces of the poison which reenter the circulation after having been fixed temporarily in those tissues which are incapable of destroying the poison

Journal of Radiology, Omaha

July 1922 **3**, No 7

Study of Leggs Disease with Report of Cases R G Giles Boston —p 261
Use of Radium Needles in Treatment of Cancer C F Bowen, Columbus O —p 265
Roentgen Ray as a Microscope W W Wasson Denver —p 268
Less Common Uses of Roentgen Ray Therapy C F Richards Toronto Can —p 271
Postoperative Mastoid Treatment with Roentgen Ray C Goosmann Cincinnati —p 273
Roentgen Ray and Clinical Findings in Normal Chests of Children Six to Ten Years of Age —p 274
Roentgen Ray Analysis of Sounds of Speech A F Barclay and W Nelson Manchester Eng —p 277

Journal of Urology, Baltimore

July 1922 **8**, No 1

Urological Problems H G Bugbee New York.—p 1
Homologue of Prostate in Female F P Johnson Baltimore —p 13
Clinical Value of Mercurophen in Treatment of Gonococcal Urethritis C H de T Shivers Philadelphia —p 35
Metastatic Complications of Gonorrhea and Their Treatment A R Fraser Cape Town S A —p 49
Surgery of Scrotum and Its Contents Under Regional Anesthesia W R Meeker, Rochester, Minn —p 61
Anomalous Relationship of Right Ureter to Inferior Vena Cava R C Graves and L M Davidoff Boston —p 75
Sacral Anesthesia in Perineal Prostatectomy Modification of Young's Operation with Summary of Cases A J Crowell and R Thompson Charlotte N C —p 81
*Renal Retention Due to Seminal Vesiculitis Report of Three Cases I G Mark and R. L. Hoffman Kansas City Mo —p 89
Physiological and Pharmacologic Studies of Prostate Gland V Effect of Prostatectomy on Integration of Muscular Movements D I Macht and J L Ulrich Baltimore.—p 99

Homologue of Prostate in Female—The urethra of the female Johnson states corresponds only with that portion of the prostatic urethra of the male which lies between the internal urethral orifice and the orifice of the prostatic utricle The remainder of the male urethra is represented in the female by the vestibule The whole homologue of the prostate in the female is here demonstrated for the first time It consists of (*a*) The urethral glands which are the homologues of those prostatic glands in the male which lie above the orifice of the prostatic utricle (therefore true urethral glands) (*b*) Skene's ducts which are the homologues of the prostatic glands which lie below the orifice of the prostatic utricle (therefore sinus glands) Bartholin's and Cowper's glands are true homologues It is also demonstrated for the first time that the glands of Littre are represented in the female by a few poorly developed glands which have received the name "minor vestibular glands '

Mercurophen in Gonorrheal Urethritis—Mercurophen has yielded uniformly good results in Shivers' experience in the treatment of gonococcal urethritis and particularly in acute infections All cases with the exception of three showed a considerable decrease in the number of infected cells per field after the first and second treatments The solutions of mercurophen employed in this study were from 1 4000 to 1 10 000, these produced slight or no irritation of the urethra All treatments with mercurophen should be preceded by thoroughly cleansing the parts to be treated with a warm 1 8000 solution of potassium permanganate

Seminal Vesiculitis Causes Renal Retention—Mark and Hoffman report three cases of ureteral stenosis with hydronephrosis due to disease of the vesicles In one case it was possible to readily pass ureter catheters from below and yet there was complete retention above the juncture of the vesicle with the ureter

Kansas Medical Society Journal, Topeka

July 1922 **22** No 7

Some Atypical Surgical Cases R C Dugan Ottawa —p 195
Relationship of Orthopedics to Neurology K R Werndorff Wellington —p 197

Kentucky Medical Journal, Bowling Green

June, 1922 **20** No 6

Clinical Relation of Tonsils to Thyroid J A Stucky, Lexington—p 382
Fracture of Femoral Neck Osteoma in Popliteal Space B Owen, Louisville—p 385
Surgery of 'Stomach Trouble B T Robinson Berea—p 388
Two Cases of Pemphigus J E Hays Louisville—p 390
Case of Apparent Dextrocardia Disproved by Instrumental Investigation J W Moore Louisville—p 392
Diagnosis and Treatment of Syphilis G W Payne Bardwell—p 393
Therapeutics in Children A L Kincheloe Owensboro—p 395
Baby's Second Summer J W Bruce Louisville—p 396
Symptomatology of Rectal Diseases W L Mosby Bardwell—p 398
Pneumococcic Meningitis S G Dabney and S Graves Louisville—p 400
Suggestions for Malaria Control B W Smock Greenville—p 401
Treatment of Malarial Fever T J Marshall Bardwell—p 402
Combating Diphtheria R Lockhardt Cleveland—p 404
Alveolodental Pyorrhea H B Ray Tompkinsville—p 406
Congenital Malposition of Left Kidney with Blood Supply from Common Iliac Artery J A Kasper Louisville—p 410
Present Status of Radiation Therapy D Y Keith, Louisville—p 411
Headaches R H Cowley Berea—p 419
Dietetic Treatment of Surgical Diabetes J J Ezell Hopkinsville—p 421

Laryngoscope, St Louis

June 1922, **32**, No 6

Etiology and Pathology of Loss of Vision from Accessory Sinus I T White, Boston—p 415
Antroscopy of Maxillary Sinus W Spielberg New York—p 441
Calculi of Nose and Throat Report of Cases L W Smith Butte, Mont—p 444
Laryngectomy for Cancer of Larynx with Modified Technic and Attempted Formation of Skin Graft Tube in Place of Larynx R H Goldthwaite Camp Benning Ga—p 446
Schwabach and Rinne Tests G W Mackenzie Philadelphia—p 451
Acoustic Neuromas J J Shea Memphis Tenn—p 460
Meningitis S MacC Smith Philadelphia—p 465
Psychology of Deafness T Hubbard, Toledo Ohio—p 473
Case of Temporosphenoidal Brain Abscess Following Acute Mastoiditis R Almour New York—p 478

Michigan State Medical Society Journal, Grand Rapids

July 1922 **21** No 7

Medical Problem W J Kay Lapeer—p 281
*Unusual Case of Hypernephroma E C Baumgarten Detroit—p 286
Cardiac Neurosis H A Reye Detroit—p 287
Future Public Health Interests and Activities V Scope. J Sundwall Ann Arbor—p 292

Unusual Case of Hypernephroma—The points of interest in Baumgarten's case were (1) the malignant neoplasm had been present and size unchanged for about twenty years without causing any disability or appreciable discomfort (2) It undoubtedly had its origin in an accessory suprarenal gland deriving its blood supply from an anomalous vessel, lying between the layers of the transverse mesocolon The patient made an uneventful operative recovery and showed no evidence of further trouble for some time, when she complained of pains in the upper left arm and over the eighth rib on the right side She refused a roentgen-ray examination of the bones Shortly afterward she developed similar trouble in the left femur and at this time a fusiform enlargement could be palpated in the humerus, and there was also an irritating cough with occasional blood streaked sputum A diagnosis of a generalized metastasis was made The patient died shortly afterward

Missouri State Medical Association Journal, St Louis

July 1922 **19** No 7

Some Accomplishments of Organized Medicine in Missouri A H Hamel St Louis—p 291
Plan for Reestablishing Four Years Course in School of Medicine at University of Missouri G L Noyes Columbia—p 293
*Congenital Syphilis and Eruption of First Teeth E Moody Joplin—p 295
Acrodynia in Infants Report of Cases J Zahorsky St Louis—p 296
Tuberculosis of Bones and Joints J E Stewart St Louis—p 300
Examination of Market Milk in St Louis M G Seelig St Louis—p 303

Congenital Syphilis and Eruption of Teeth—That there is a definite inhibition of the eruption of the first teeth of some children who have a syphilitic taint seems to be an unquestionable fact In the cases cited by Moody that illustrate this condition there have usually been no other signs or symptoms of the disease These cases seem to indicate that congenital syphilis may be an even more important cause of failure of the first teeth to erupt than rickets and that the disease may cause no changes whatever in the shape, size, arrangement or interfere in any way with the enamel formation of these deciduous teeth even when the inhibition of eruption has been to a marked degree

New Jersey Medical Society Journal, Orange

July 1922 **19** No 7

Role of Medical Profession in Prevention of Tuberculosis B S Pollak, Secaucus—p 187
Mind of Physician G K Dickinson Jersey City—p 189

New Orleans Medical and Surgical Journal

July 1922 **75**, No 1

Price of Neglect in Acute Purulent Otitis Media F R Gandy Alexandria Ala—p 1
Hysterectomy—Indications for and Selection of Type of Operation W D Phillips New Orleans—p 8
Suggestions in Treatment of Certain Diseases of Skin J M King Nashville—p 17
Basal Metabolic Rating as Basis of Classification and Treatment of Thyroid Conditions H P Jones New Orleans—p 28

New York Medical Journal and Medical Record

July 19 1922 **116** No 2

Physiologic Adjuvant in Rest Cure of Pulmonary Tuberculosis S A Knopf New York—p 65
Roentgen Ray Treatment of Diseases of Generative Organs I S Hirsch New York—p 68
Fugacious Edema of Mastoid Region with Paroxysmal Hemoglobinuria C J Koenig Paris France—p 74
Conquest of Typhoid Fever at Chickamauga Park Ga R A Reilly Danville Pa—p 77
Esophagoscopy M C Myerson Brooklyn—p 82
Labyrinthine Surgery J M Smith New York—p 85
Infection with Organism of Vincent C Barker New Haven Conn—p 88
Status of Lumbar Puncture and Prevention of Its Complications H W Traub Chicago—p 91
Operative Treatment of Scoliosis S Kleinberg New York—p 93
Colon Bacillus Pyelitis P Goldfader Brooklyn—p 95
*Case of Pulmonary Abscess D Greenberg New York—p 98
Weaning the Infant J H Marcus Atlantic City N J—p 101

Chronic Pulmonary Abscess—A case of chronic pulmonary abscess lasting about a year, with a severe productive cough and with large quantities of odorless sputum, is reported by Greenberg as a unique case In reference to the symptomatology, the presence of an increasingly severe, productive cough, together with weakness usually associated with symptoms of fever, such as chills or chilly sensations, with languor and anorexia, with loss of weight and pain in the chest, may be said to be more often present than not The cough and the large quantities of malodorous sputum are the most constant of the symptoms In the author's case there was also dyspnea and marked weakness and loss of weight, with vague pains in the right side of the chest—but the sputum remained odorless The diagnosis is usually not difficult when the abscess ruptures early in the course of the disease as it usually does, giving rise to the characteristic sputum In cases where no such rupture occurs or when the sputum is not characteristic there may be considerable difficulty in arriving at a diagnosis The conditions with which chronic pulmonary abscess may be confused are chronic tuberculosis and capsulated empyema, bronchiectasis, neoplasm and broken down gumma of the lung and actinomycosis

New York State Journal of Medicine, New York

July 1922 **22** No 7

*Radium Treatment of Parotid Tumors D A Quick and F M Johnson New York—p 297
Limitations of Roentgenologic Diagnosis R D Carman Rochester Minn—p 302
Roentgentherapy in Malignant Disease G E Pfahler Philadelphia—p 305
New Method of Applying Radium Through Cystoscope L. Buerger New York—p 312
Classification of Neurosyphilis Concerning Therapy L H Cornwall New York—p 316
Personality Defects as Neuropsychiatric Problems I J Sands Brooklyn—p 323
Is Shape of Public Arch Factor in Causation of Cystocele? F C Goldsborough Buffalo—p 327

Radium Treatment of Parotid Tumors—Of eleven operable cases treated with radium by Quick and Johnson, three of which were recurrent, ten are at the present time clinically

free of any neoplastic disease, but in five of these at the tumor site there is remaining a small quiescent fibrotic mass These patients have been well from 6 months to 3½ years The eleventh case in this group is still undergoing treatment, with a very satisfactory response Of forty three inoperable cases, twenty-three of which were recurrent, twelve are clinically free of active disease for periods ranging from 6 months to 3½ years Fifteen patients were definitely improved, locally and generally, and sixteen were so far advanced as to render quite negligible and palliative effect of the treatment Of the cases reported as clinically free of disease and which at the time of treatment were subjected to biopsy, five were of the mixed tumor type, four were reported as carcinoma, or adenocarcinoma, one as squamous epithelioma and one as Mikulicz disease The four cases of carcinoma that are clinically well represent a group that is considered very unfavorable from the standpoint of surgery Only one of these was considered at all operable The extent of disease of the other three cases precluded the hope of any benefit from attempted excision

Northwest Medicine, Seattle

July 1922, **21**, No 7

Diagnostic Problems in Pulmonary Tuberculosis R C Matson Portland Ore —p 199
Fractures and Dislocations of Spine Report of Five Cases H S Willard Tacoma —p 206
Dislocated Cervical Vertebrae R Anderson Tacoma —p 212
Dislocation of Knee L H Meadows Clear Lake Wash —p 213
Congenital Absence of Both Tibiae Treated by Bone Transplants R T Congdon Wenatchee Wash —p 214
Subphrenic Abscess J D Sternberg and W H Watson Portland Ore —p 217
Renal Function Tests L. G Rowntree Rochester Minn —p 220
Treatment of Postoperative Complications N A Johanson Seattle —p 221

Dislocation of Cervical Vertebrae —In Anderson's case there was an extreme dislocation of the fourth on the fifth cervical vertebra without any cord lesions Treatment instituted in this case was a combination of the manipulation and fixation methods After a hazardous attempt to reduce the dislocation by manipulation under ether proving unsuccessful, resort was had to the slower and more conservative method of casts and braces For several days before an anesthetic was given, about 20 pounds traction was applied to head by means of Sayre's bandage While under ether the most strenuous efforts were made to reduce the dislocation under guidance of a bedside roentgen-ray machine but without results either for better or worse The immobilization method was the only alternative, so a cutlass of plaster-of-Paris was applied Neck was kept in casts for three months when a brace was applied which he has been wearing about a year He now has no pain complains only of some stiffness in neck, no nerve complication at all, and there never has been in spite of marked dislocation Patient is gradually being weaned away from the brace

Philippine Journal of Science, Manila

March 1922 **20** No 3

Physiography and Geology of Samar Island P I H G Schenl Manila —p 231
New Cercopides of Philippines V Lallemand Brussels —p 273
Identification of Bacteria Pathogenic to Plants Previously Reported from Philippine Islands C G Welles Manila —p 279
Some Results with Intelligence Tests in Philippine Islands A v H Hartendorp —p 287
Pressures Required to Cause Stomatal Infections with Citrus Canker Organism F T McLean and H A Lee Manila —p 309
*Schick Reaction in Filipinos L Gomez, R Navarro and A M Kapauan Manila —p 323
Relation of Age of Citrus Tissues to Susceptibility to Citrus Canker H A Lee Manila —p 331
Mounted Specimen of Monkey Eating Eagle (Pithecophaga Jefferyi) of Philippines R W Shufeldt Washington D C —p 343
Three New Species of Derbidae (Homoptera) F Muir Honolulu —p 347
Food Value of Philippine Bananas W Salvador Manila —p 363

Schick Reaction in Filipinos —In all 1,030 persons of various ages were tested by Gomez, Navarro and Kapauan Eighty-eight or 8 5 per cent, were positive Most of the positives were found during the first eight years of life, especially during early infancy and childhood The number of positives decreased considerably from the age of 8 years up to the adult period The females, as a general rule, showed a greater number of positive reactions than the males, they averaged 14 per cent of the total number of females examined, whereas the males only showed 5 8 per cent of positives

Food Value of Philippine Banana —The components that Salvador found make up the edible portion of the Philippine banana include water, fat, protein, carbohydrates, organic acids, and mineral matter Of these water is hardly to be considered as a nutrient, though it plays an important part in food as a diluent and solvent The fat, protein and carbohydrates contribute in varying degree to the supply of fuel for the production of heat and energy Besides this universal function the fat and the carbohydrates serve especially to furnish fatty tissue in the body, while the protein is the chief source of muscular tissue The organic acids are minor, though important, constituents of food Because of their conversion into carbonates within the body, they are useful in furnishing the proper degree of alkalinity to the blood and to the various other fluids, besides being of particular value as appetizers The mineral or inorganic salts are necessary to supply material for the teeth and bones, besides having an important place in the formation of hemoglobulin in the blood and in the cellular structure of the entire body Philippine bananas, as shown by the analyses, are essentially carbohydrate foods, the percentages of protein and fat being correspondingly low Their nutritive value lies chiefly in the sugars they contain although the acids and salts exercise an important function in the digestive processes The sugars are present, both as reducing and as sucrose Although the banana is rich in carbohydrates, its low content of protein indicates that it is not a well-balanced ration but should be eaten with beans, peas, or other vegetables rich in protein or with lean meat in order to secure a proper quantity of protein in the diet

South Carolina Medical Association Journal, Greenville

June 1922 **18**, No 6

Magnesium Sulphate as Aid in Anesthesia G T Tyler Greenville —p 153
Dyspepsia Common Symptom Syndrome Differentiation from Important Surgical Conditions of Abdomen W M Sheridan, Spartanburg —p 155
Experience with Radium T H Dreher Matthews —p 158
Acute Peritonitis H H Plowden Charleston —p 164
Passing of Old Oaken Bucket L Banov Charleston —p 166
Sterilization Versus Propagation B O Whitten Clinton —p 167
Methods of Treatment of Ureteral Calculus M Weinberg Sumter —p 168
Transfusion of Blood S O Black Spartanburg —p 171
Hypertrophied Tonsils and X Ray F D Rodgers Columbia —p 172
Present Status of Wassermann Reaction J R Allison Columbia —p 173
Chronic Suppurative Otitis Media W C Twitty Rock Hill —p 174
Syphilis and Abortions R E Seibels Columbia —p 175

U S Naval Medical Bulletin, Washington, D C

June 1922 **16**, No 6

Hydrogen Ion Concentration C W O Bunker —p 973
Aviation Medicine in United States Navy J F Neuberger —p 983
Developments in Diagnosis and Treatment of Syphilis L W Shaffer —p 1011
Old Anatomic School at Padua W M Kerr —p 1015

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Experimental Pathology, London

June 1922 **3** No 3

*Infection of Lice (Pediculus Humanus) With Rickettsia Prowazeki by Injection Per Rectum of Blood Platelets of Typhus Infected Guinea Pigs and Reinfection of Other Guinea Pigs From These Lice A Bacot and J Segal —p 125
*Variations in Diastatic Power of Urine in Relation to Its Reaction Suggested Method for Estimation of Diastase Content E C Dodds —p 133
*Investigation Into Etiology of Dental Caries I Nature of Destructive Agent and Production of Artificial Caries J McIntosh W W James and P Lazarus Barlow —p 138
*Isohemagglutination S C Dyke —p 146

Relative Value of Human and Guinea Pig Complement in Wassermann Reaction A. F Hayden —p 151
*Experimental Immunization Against Bacillus Dysenteriae (Shiga) and Its Toxins S Kanai —p 158

Infection of Lice with Rickettsia Prowazeki—The injection of lice with a concentrated emulsion of platelets obtained by fractional centrifugalizations of the blood of a typhus infected guinea-pig, according to Bacot and Segal, affords a sure and quick method of obtaining the development of *Rickettsia prowazeki* in these insects The lice thus infected can be used to convey typhus fever to fresh guinea-pigs The parallel development of typhus virus and *Rickettsia prowazeki* in successively passaged guinea-pigs is demonstrated and also in lice infected from guinea-pigs after twenty-three blood or brain passages

Estimation of Diastase Content of Urine—The original technic for the diastase reaction is criticized by Dodds because it takes no account of the varying reaction of normal urine A modified technic is described whereby the urine is diluted with a phosphate buffer solution, thus bringing all urines to the optimum p_H before its starch-digesting power is tested Ammoniacal decomposition, by making the urine more alkaline decreases the diastatic power as determined by the old method, but has no effect on the method suggested Diastase tends to cling to urinary deposits, hence all urines should be well shaken

Etiology of Dental Caries—The examination of selected carious material by McIntosh, James and Lazarus-Barlow showed the constant presence of a definite type of bacillus Teeth left in contact with pure cultures over prolonged periods showed changes almost identical with those found in natural caries The bacilli, to which it is proposed to give the name *B acidophilus-odontolyticus*, in their resistance to and formation of acid resemble the "acidophilus" group of Moro, biologically, however, there are several points of difference

Isohemagglutination—Absorption tests performed by Dyke on serums of Groups II III and IV using corpuscles of Groups I, II and III confirm von Dungern and Hirschfeldt's hypothesis as to the distribution and nature of agglutinins and agglutinable factors in the four blood groups

Experimental Immunization Against Dysentery Bacillus—Attempts made by Kanai to secure, by subcutaneous and oral administration of killed vaccines a solid active immunity against the potent soluble toxin of *B dysenteriae* (Shiga), intravenously administered, have not been attended with the striking success realized in previous work when active immunity was sought to the live bacilli similarly administered Therefore, comparative estimates of the value of oral and subcutaneous methods in this connection are not at present possible

British Medical Journal, London

July 1, 1922 **2**, No 3209

Modern Treatment of Syphilis L W Harrison —p 1
Place of Ophthalmology in Undergraduate Medical Curriculum W G M Byers —p 4
*Diagnostic Value of Gastric Fractional Test Meals H S Pemberton —p 7
*Treatment of Human Hookworm Infection with Carbon Tetrachlorid L Nicholls and G G Hampton —p 8
Mechanism of Drug Action O C M Davis —p 11
Visceral Crises A Mills —p 13
*Quinin Necrosis of Muscle P Figdor and D D' Pinnock —p 14
Blood at 100 Years of Age F G Macnaughton —p 14
Treatment of Erysipelas by Vaccines J R Russell —p 15

Diagnostic Value of Fractional Test Meals—The acidity curves plotted from fractional test meals Pemberton regards as being of some value in obtaining knowledge of the factors which modify the acidity Alterations in these factors bear some sort of relation to gastro-intestinal lesions, hence the acidity curves may throw some light on these lesions These curves seem divisible into at least six types of varying diagnostic value By comparison with other methods, the fractional test meal is at least admissible as an aid to diagnosis

Carbon Tetrachlorid Treatment of Hookworm Infestation—Nicholls and Hampton relate the case of a murderer under sentence of death who volunteered to take carbon tetrachlorid Six c c was given one hour after the midday meal, and the same day he passed four worms (*Ascaris lumbricoides*), thirteen days later this dose was repeated at 7 a m before any food had been taken The patient stated that at 11 45 he felt a little giddy and sleepy, but this soon passed The execution took place a week after the second dose, and a postmortem examination was made one hour after death No hookworms or ascarids were found in the intestinal tract Sections of his organs were examined microscopically, but showed no signs of degeneration of any kind Therefore, it is apparent that in single doses carbon tetrachlorid is a safe remedy The students of an agricultural school who were infested with hookworms received a dose of 3 c c of the drug at 6 30 a m before any food had been taken, no purgative was given after the drug was administered They were instructed to carry on their usual mode of life, and restrictions were not placed on their work, play, or diet Not one of them was inconvenienced by the drug, and they all continued their day's work All stools passed for three days after treatment were collected and carefully searched for worms A total of 719 hookworms, or an average of thirty-six for each student, were recovered Besides these hookworms, thirteen *Ascaris lumbricoides* were passed Microscopic examination of fecal specimens ten days after treatment showed ova of hookworms in only two specimens, which indicates that 90 per cent were cured Two-thirds of the worms were passed on the second day after the treatment Other observations made show that the drug may be administered safely in doses of from 10 to 20 minims to children 3 and 4 years of age, even when they are seriously ill from various causes It aids the expulsion of *Ascaris lumbricoides* if it is followed by a purgative, but it is not as effective as chenopodium in killing this worm The drug does not seriously deteriorate on keeping Many children were given carbon tetrachlorid which had been stored in the laboratory for three years It is more valuable than chenopodium for campaigns against hookworm disease because (*a*) patients do not object to its taste, (*b*) it is not necessary to precede or follow the administration of it by a purge, (*c*) it is more efficient than chenopodium and has not the depressing effects of that drug, (*d*) it is much cheaper than any other drug that has been used, (*e*) it can be prepared in a high degree of purity, and a chemically pure preparation should always be used, (*f*) the person who is being treated can do his usual day's work

Quinin Necrosis of Muscle—The interest of the case cited by Figdor and Pinnock relates to the early treatment of the patient by intramuscular injections of quinin and its unusual sequel Necrosis took place, but in none of the other cases of quinin necrosis recorded has there been, as in this case, a definite separation and encysting of the necrosed muscle

China Medical Journal, Shanghai

May 1922, **36** No 3

*Operation for Cirrhosis of Liver A I Ludlow Seoul —p 200
Gangosa in Human Report of Case N Bercovitz Kachek —p 203
Types of Cerebrospinal Syphilis in China A H Woods Peking —p 206
Delouser J H Ingram Peking —p 225
Delousing with Special Reference to Ingram Apparatus C W Young Peking —p 230
Renal Function Tests H W S Wright Tsinanfu —p 242

Operation for Cirrhosis of Liver—Ludlow makes an incision in the median line between the umbilicus and symphysis pubis A tube is inserted and the fluid removed by suction or syphonage after which the whole field of the abdomen is explored The omentum is then sutured with catgut to the parietal peritoneum over as extensive a surface as possible A small amount of the omentum is then drawn out from the upper part of the wound and tucked under the skin and stitched in place with catgut sutures—a combination of the Talma and Narath and Vander Veer operations On the patient's return to the ward, the tube is connected with a bottle for continuous drainage which is usually kept up for a week The fact that there was no operative or postoperative mortality in the last five cases and that the patients were at least much improved, Ludlow thinks, warrants the continuance of the method

Edinburgh Medical Journal

July 1922, **29**, No 1

Significance of Pyuria in Children J S Fowler—p 1
Some Factors Modifying Nutrition of Children Survey of 1000 of Most Marked Cases of Malnutrition in Viennese Children Made in Summer of 1921 M R Gribbon—p 12
Variola in Baghdad H C Sinderson—p 18
Spinal Anesthesia D N Kalyanwala—p 25
Lateral Dislocation in Lumbar Spine J N J Hartley—p 34

Japan Medical World, Tokyo

June 1922 **2** No 6

Sensitizing Action of Thyroid Extract for Epinephrin S Ono—p 157
Epinephrin Heterogenous Transplantation of Rat Carcinoma in Brain of Adult Mouse and Pigeon K Yamasaki—p 160
Power of Peroxydase Reaction of Leukocytes in Acute Pyogenic Inflammation H Ohara—p 164
*Active Principle of Korean Ginseng K Abe and I Saito—p 166

Sensitizing Action of Thyroid Extract for Epinephrin—Ono's experiments show that an active principle of thyroid sensitizes the heart of cold blooded animals (toad) and the blood vessels of warm blooded animals (cow) for the action of epinephrin

Experimental Inoculation of Mouse Carcinoma—The result of the inoculation of the mouse carcinoma of Flexner's type into the subcutaneous tissue of mice is entirely negative But the intracranial transplantation of the same tumor into the same animal gives apparently positive results in more than 64 per cent The growth of the tumor tissue inoculated is infiltrative though very slowly The vital reaction in the tissue around the growing tumor tissue is generally sluggish Hypodermic transplantation of the mouse carcinoma of Flexner's type into pigeons is absolutely negative, but it gives apparently positive results in the brain of the same animals

Active Principle of Ginseng—Abe and Saito found that the substance in ginseng which has inhibitory action on blood sugar is not extracted by petroleum ether or ether, but by pure alcohol This active principle of ginseng is said to be a glucosid

Lancet, London

July 8 1922 **2**, No. 5158

Osteo-Arthritis A G T Fisher—p 55
Clinical Symptoms of Cerebellar Disease and Their Interpretation G Holmes—p 59
Ten Cases of Delayed Congenital Syphilis E D Spackman—p 65
Tennis Elbow F Romer—p 67
*Diastase Reaction of Urine A F Sladden—p 68
Case of 'Carcinoid Tumor of Meckel's Diverticulum J A B Hicks and S Kadinsky—p 70
Case of Eclampsia in Thirty Fourth Week Treated by Cesarean Section Mother and Child Living A W Owen—p 70
Case of Carcinoma of Cervix in Young Woman Following Gonorrhea S G Luker—p 71

Delayed Congenital Syphilis—Eight of the ten cases reported by Spackman occurred in full grown serving soldiers, whose ages were between 19 and 31 years, the two civilian patients were aged 17 and 16 years, respectively In the eight cases there were no signs of a syphilitic breakdown until the men were engaged in the strenuous work of war Further points of interest in these cases are that four out of eight soldiers were passed into the army as A 1—and that six out of the eight were actually serving in France when their syphilitic symptoms appeared, four of them being combatants in the front line Syphilis hereditaria tarda, Spackman says, is not a rare disease, and should be diagnosed more frequently than it is in adult life Aortitis or aneurysms may have a congenital origin and not be the result of acquired syphilis All cases of syphilis, congenital or acquired, should be placed in the hands of those competent to treat them, and if any permanent benefit is to be expected such treatment must be intensive and thorough Disease of the eye, in the form of interstitial keratitis, iritis or choroiditis often one of the earliest signs, is of great importance in early diagnosis

Diastase Reaction of Urine—Urines tested for diastatic activity Sladden says, should be brought to a standard hydrogen-ion concentration, preferably the optimum, p_H 6 7 In assessing results, the total day's excretion rather than the unit value alone should be considered Low diastase values definitely indicate nephritis as a rule, but not all nephritics (and notably pyelonephritics) have lowered values Not all types of pancreatic lesions cause excessive diastase output The test is of much value in dealing with toxemias of pregnancy and allied conditions

Carcinoid Tumor of Meckel's Diverticulum—Hicks and Kadinsky assert that no tumor of this nature has been recorded up to date as occurring in a Meckel's diverticulum The patient was a boy, aged 12 years, who complained of sickness and abdominal pain Seven weeks before admission he had had an attack of abdominal pain, vomiting and diarrhea lasting twenty-four hours The pain recurred about once a week for the next four weeks, and the attack lasted for an hour After this attacks became more frequent and were accompanied by vomiting A diagnosis of appendicitis was made and the patient operated on the same day At the operation the appendix, which was retrocecal, was found quite normal A small amount of pus escaped in the region of the cecum, which was edematous and thickened from the adherence to it of the distal end of an acutely inflamed Meckel's diverticulum The diverticulum was 3 inches long kinked and perforated, pus was present in the pelvis The paracecal glands were enlarged The diverticulum appendix and one gland were removed and the peritoneum drained The patient made a good recovery

Early Cesarean Section in Eclampsia—Owen believes that the 30 per cent mortality for cesarean section performed for eclampsia for the ten years 1911-1920 could undoubtedly be greatly reduced if prompter action were taken The interval between the first fit and the operation in his case was just three and a half hours

Carcinoma of Cervix Following Gonorrhea—Luker's case occurred in a secundipara aged 28, in whom carcinoma of the cervix followed an attack of gonorrhea contracted five months previously The occurrence of a carcinomatous growth during local treatment of the cervical canal for gonococcal cervicitis, Luker thinks supports the 'irritation' theory in that in this case there was the discharge and also the repeated application of antiseptics

Medical Journal of Australia, Sydney

June 3 1922 **1**, No 22

Tuberculosis H W Palmer—p 595
Teeth and Health V MacDonald—p 605
Rheumatic Fever Complicating Advanced Pregnancy E B Heffernan—p 608

June 10 1922 **1**, No 23

Pathogenesis of Renal Tumors E H Derrick—p 623
Treatment of Renal Tumors A Newton—p 634
Case of Sprue in New South Wales J A Goldsmid—p 636

June 17 1922 **1**, No 24

*Operations on Round Ligaments and Their Dangers H A Powell Adelaide—p 653
Wassermann Reaction as Index of Cure with Special Reference to Value of Cold Fixation in Technic of Test. C H Shearman Perth—p 656
Stomatitis and Glossitis in Association with False Teeth M C de Garis Melbourne—p 668
Subacuate Nephritis and Result of Edebohls's Double Decapsulation Operation R D McIntosh Melbourne—p 668

Operation on Round Ligaments—In choosing the operation to be used, Powell says the method that promises the best results is one that conforms most closely to the following considerations Allows a thorough examination of the pelvis, utilizes the strong inner half (or more) of the round ligament, leaves no free band in the peritoneal cavity, leaves no weak spot in the broad ligament as a possible path for hernia, exercises a partially forward pull on the uterus allows for the future possibility of pregnancy, allows sufficient space for normal expansion of the bladder

Practitioner, London

June 1922 **108**, No 6

Pulmonary Embolism After Operations C Gordon Watson—p 381
Urticaria Due to Streptococcal Sensitization A F Hurst—p 394
Etiology of Diabetes and Its Bearing on Treatment P J Cammidge—p 396
Treatment of Internal Hemorrhoids by Injection A S Morley—p 403
Arthritis Deformans C W Buckley—p 412
Value of Massage in Fibrositis T Marlin—p 425
Oral Sepsis and Systemic Disease W B Watson—p 432
Treatment of Malaria in Pregnant Women and Newly Born Children S B Naggar—p 441

Bulletin Medical, Paris

June 17 1922 **36**, No 25

Surgical Treatment of Traumatic Epilepsy C Villandre —p 499
Treatment of Gonorrhea with Thorium X Aversenq —p 502

Bulletins de la Societe Medicale des Hôpitaux, Paris

May 19 1922 **46** No 17

*The Sign of the Thyroid J Parisot and G Richard —p 806
*Painful Pronation in Children J Comby —p 810
*Anaphylaxis to Bread G Turrettini —p 811
Argyll Robinson Sign from Skull Trauma G Guillain and L Laederich —p 814
Tabes in Two Europeans from African Syphilis A Sezary and J Ahibert —p 816

The Sign of the Thyroid—Parisot and Richard injected thyroid extract and noted its effect on the heart in 17 cases of hyperthyroidism, in 11 with other thyroid disturbance, 32 with normal glands, and 12 with deficient thyroid functioning —72 in all The reaction evidently depends on whether the vagus or the sympathetic system happens to be most sensitized at the moment But one reaction was constant and capital in hyperthyroidism, namely, a pronounced slowing of the pulse, after the massive injection of thyroid extract They call *this the sign of the thyroid* The *systolic blood* pressure usually declined also, and the oculocardiac reflex was exaggerated They say that this sign of the thyroid deserves to rank with Goetsch's epinephrin sign and Porak's sign of excessive thyroid functioning They found it useful in determining or excluding the participation of the thyroid in pluriglandular disturbances

Painful Paralysis of Infants—When a child is learning to walk and it falls while its hand is being held by a larger person, the elbow gets a jerk that may displace the head of the radius a little The result is what Broca called painful pronation, and taught how to cure it by holding the forearm in supination and pressing on the head of the radius while the forearm is flexed on the arm The radius slips at once back into place A case is described in which the jerk of the elbow occurred while the babe was sitting in its perambulator It had hold of the top when the nurse pushed the carriage suddenly forward to escape a vehicle

Anaphylaxis to Bread—In Turrettini's case, Quincke's edema developed in a previously healthy woman of 52 The urine was free from albumin, and when no starchy food was taken there was no edema, but whenever she ate any bread the edematous swellings and urticaria returned Attempts to desensitize have had no or only transient effect, and the edema still returns as regularly as when the anaphylaxis first developed This was in December, 1920

Encephale, Paris

June 1922 **17** No 6

The Care of the Insane A Antheaume —p 330
Experimental Study of Cerebellar Localization Andre Thomas —p 346 Concln
*American Opinion of Psychanalysis A Brousseau and O Raeder —p 360
Mental Complications of Epidemic Encephalitis Naville —p 369 Cont'd
The Static System and Its Relation to Hypertonic Conditions of Skeletal Muscles J Ramsay Hunt (New York) —p 376

American Opinion of Psychanalysis—Rousseau and Raeder report the various discussions on psychanalysis at the Atlantic City congress of neurology in 1921 as reflecting the opinion of American psychiatrists that psychanalysis is merely a new method of exploration of the subconscious and of emotional conflicts They say that the Americans accept only *une psychanalyse epuree de tous les excès doctrinaux*

Journal de Médecine de Bordeaux

June 10 1922 **94** No 11

Orthopedic Examination of Schoolchildren Lalesque —p 351
Mongolian Blue Spot in Bordeaux Boisserie Lacroix.—p 355
Colloidal Gold in Surgery J Guyot and G Jeanneney —p 358
*Gestation after Nephrectomy M Favreau —p 359
Duodenum Intubation R Damade —p 361

June 25 1922 **94**, No 12

Ambard's Constant in Surgery Bégouin and Darget —p 387
Induced Asthma Attacks Creyx et al —p 390
Gastric Limits C Massias and G Auriat —p 393
Diphtheria of Trachea with Negative Findings in Nose and Pharynx L Cornet —p 394

Gestation After Nephrectomy—Favreau concludes from the case published here that a normal pregnancy can occur after nephrectomy for tuberculosis as early as one year after the operation He adds, "Possibly less than this, notwithstanding Mathews' plea in THE JOURNAL, Nov 19, 1921, p 1634, for a delay of three years after nephrectomy before a pregnancy" The woman of 24 became pregnant one year after removal of the left kidney for tuberculosis The fifth month acute pyelonephritis appeared which passed into a torpid phase but flared up anew during the puerperium, and then became torpid again after delivery The woman was well and up the twenty-fifth day, and suckled the babe until the second month, but this was suspended as she did not regain her pregnancy weight

Lyon Chirurgical

March April, 1922 **19** No 2

*Arthroplastic Operations for Ankylosis V Putti —p 121
*Trauma of Wrist in Children R Massart and P Cahouat —p 133
*Perforation of Gastroduodenal Ulcers A Kotzareff —p 158
*Endoscopy of Neck of Bladder L Phelip —p 171
*Fracture of Semilunar Bone E Destot —p 178
*Clamp for Extraction of Fibromas H A Albertin —p 187

Arthroplasty for Ankylosis—Putti has now a record of 113 cases of operative mobilization of stiff joints, 10 of the jaws, 38 of the elbow, 17 of the hip, and 40 of the knee, with others in five other joints The great progress realized in this kind of operations is due to the practice of interposing a flap taken from the fascia lata He covers with a free flap of this kind both epiphyses, fastening the flaps in place with a few catgut stitches The joint must be freely exposed but without cutting the parts which preside over motion and weight bearing The reconstruction of the joint and the results are shown in a number of illustrations and the excellent outcome He never drains, but lays great stress on the necessity for traction on the distal fragment, the limb in a plaster splint The traction holds the parts of the joint apart, and he keeps it up for a month Passive movements are not begun till the tenth day They are done by the patient himself, with simple apparatus fastened to the bed To avoid any strain on the joint, it is best for the patient to make these passive movements without assistance, the physician merely supervising As soon as the wound has healed, Putti begins hot air treatment, at first with an electric apparatus and later with an alcohol heater This treatment has to be kept up for several months He does not regard massage as of much importance, believing that the electricity stimulates the principal muscles more effectually Mechanical treatment need not be begun till the twentieth day The old, simple Bonnet apparatus is very practical The patient should not bear his weight on the new joint until the thirtieth day These new joints pass through a critical period about a month after the operation, the joint may be stiff and a little painful The hot air treatment should be suspended for a few days, and only cautiously resumed Extra care for a longer time is required for the jaw and the knee The chances of success are better with the elbow, next the knee, the jaw and the hip

Trauma of the Wrist in Children—This profusely illustrated study of the wrist and its injuries is based on 377 cases of trauma of the wrist in children

Perforation of Gastroduodenal Ulcer—Kotzareff protests against an immediate gastro-enterostomy when a perforated ulcer has been sutured His reason for this protest is the assumption that chronic gastric and duodenal ulcers are caused by infection with a fungus, and by making another opening we invite the localization of this fungus at this point Askanazy's clinical and experimental research—in which Kotzareff cooperated—seems to have established that *Oidium albicans* is usually responsible for chronic ulcers In operating, measures must be applied to destroy the oidium in the stomach, duodenum and mouth, otherwise the pus in the peritoneum will be invaded Wherever there is a lesion in the mucous membrane the oidium is liable to take root. He urges search for the oidium in all ulcer cases and recognition of its causal action

The Functioning of the Neck of the Bladder—Phelip's endoscopic study of partial retention of urine has confirmed that the evacuation of the bladder does not depend merely on the opening and closing of the sphincter. There are four movements of the parts involved, and functional derangement from any one of these can be corrected by restoring this functioning to normal. This emphasizes the necessity for endoscopic analysis of the disturbances to allow correction before irreparable damage has been wrought.

Fracture of the Semilunar Bone—Destot's article is based on twenty-four cases.

Extraction of Fibromas—Albertin's illustrations show the double-pronged corkscrew device which he screws into the fibroma. The curving prongs aid in cutting out the fibroma while the hold is firm and solid and there is no hemorrhage where it is worked in. He says it is superior to all similar models, and anyone can make one like it for himself.

Presse Medicale, Paris

June 21 1922 **30** No 49

Secretion of Pepsin and Pepsinuria. Loeper and J Baumann—p 529
Metal Bands for Fractured Bones. A Lambotte—p 530
Pregnancy in the Tuberculous. F Dumarest and P Brette—p 531

Pepsin—Loeper and Baumann have been making a special study of the secretion of pepsin, and present data to show that in addition to its protein digesting function, it instigates certain nervous and vascular reactions. It reduces the blood pressure, stimulates peristalsis, and is essentially vagotonic. Hence when pepsin is secreted in excess or in inadequate amounts besides the purely digestive disturbances that result there may be general disturbances from the excess or the lack of pepsin. Much pepsin in the fasting stomach content testifies in favor of ulcer and true hypersecretion. The serum and urine of the normal fasting subject do not contain pepsin, but in case of ulcer large amounts of pepsin are found in both serum and urine. The constancy of this fasting finding contrasts with the variability after meals.

Metal Bands for Fractured Bones—Lambotte's modification of the Parham bands has already been described in these columns when published elsewhere (May 6, 1922, p 1424). A little slide fits over the band and holds the turned back end thus rendering it much more solid. Fifteen illustrations show Lambotte's band-passer, vice, etc.

Pregnancy in the Tuberculous—Dumarest and Brette report nine cases in which a pregnancy or even repeated pregnancies in tuberculous women seemed to have a favorable influence on their disease. They cite Lassegue's three cases in which pulmonary tuberculosis seemed to have been arrested by the pregnancy. Artificial pneumothorax has introduced a new element into the question, and they describe eight cases in which women with a lung in collapse passed safely through an apparently normal pregnancy. It seems in many of such cases that the arrest of menstruation has a decidedly favorable effect. In the progressive immunization of the race the children of parents with attenuated tuberculosis are the agents. When conceived during the phase of fibrous transformation of the tuberculous process, the child is born with defensive attributes and his progeny some day will triumph definitely over the tubercle bacilli. All biology teaches that nature does not know of and does not practice any other means of stamping out contagious diseases than by progressive immunization. The cases of tuberculosis in which a favorable outcome is more probable are those with pronounced reactions, and the focus in the lung has had a slow fibrous evolution.

Progrès Medical, Paris

June 10 1922 **37** No 23

Exophthalmic Goiter Syndrome. III. C Achard—p 265
Indigestion Invites Gastric Crises in Tabes. M Loeper and G Marchal—p 269
Principles for Radiotherapy in Surgery. R Proust—p 269
The Centennial of General Paralysis. H Codet—p 273

June 17 1922 **37** No 24

Present Status of Exophthalmic Goiter. IV. C Achard—p 277
Thyroid Insufficiency and Sterility. Vignes and Cornil—p 283
Obesity in Children. Lereboullet—p 285

Revue de Medecine, Paris

February 1922 **39**, No 2

*Vitamins and Deficiencies in the Diet. G Mouriquand and P Michel—p 65
Chemical Modifications of the Serum in the Course of Liver Disease. Biscons and Rouzaud—p 91
Hemiplegia with Hemichorea. A Remond and H Colombies—p 107
Current Topics. H Codlewski—p 111

Dietary Deficiencies—Mouriquand and Michel review the literature on the vitamins and the practical conclusions which their own clinical and experimental experience has confirmed. They warn not to hesitate to use cod liver oil freely, as indicated for children of all ages into puberty.

Chemical Changes in the Serum in Liver Disease—Biscons and Rouzaud found that the cholesterin and the bilirubin content of the blood showed promptly the effect of obstruction of the flow of bile. When the liver itself begins to suffer then the nitrogen and the sugar content soon show the effect also. During the congestion phase, the azotemia rises, but when the liver becomes seriously diseased, the azotemia declines. This decline may be masked, however, by uremia from retention by the kidneys. The ureosecretory index will reveal whether this is the case. Hypercholesterinemia is to gallstones what uricacidemia is to gout. Hemolytic jaundice on the other hand bears the imprint of hyperbilirubinemia. These two cycles are thus distinct but the liver is a factor in both. Chemical examination of the blood serum may thus give the clue in puzzling conditions, tracing to cholelithiasis certain stomach disturbances. In other cases the normal findings in cholesterin, glucose and urea exculpate the liver and warn to seek elsewhere for the cause of the disturbances which have been masquerading as disease of the liver. But it is in the early detection of liver disease that chemical examination of the blood is most instructive and salutary, prompt treatment enabling us to steer the liver into a safe harbor. A course of alkaline mineral waters for instance has more chance to reduce the hypercholesterinemia and restore normal conditions in the liver, the less advanced the liver affection.

March 1922 **39** No 3

Shock by Contact. W Kopaczewski—p 129. Concl. No 4, p 211
*Heart and Aorta Complications of Malaria. F Tremolieres and J Caussade—p 151
Is Gonococcosis Curable? P Lebreton—p 166
Expression of Eyes as Sign of Syphilis. A Chelmonski—p 172
Current Topics. H Godlewski—p 175

April 1922 **39** No 4

Pathology of the Autonomic Nervous System. H Roger—p 193
Arsphenamin by Subcutaneous Injection. J Minet and R Legrand—p 230
Recent Literature on Tuberculosis. H Godlewski—p 244. Cont'd

The Phenomena of Shock by Contact—Kopaczewski describes the features which differentiate shock from injection of a suspension from shock from injection of a colloid and from the shock of anaphylaxis. Each of these three forms of shock by contact requires different treatment, measures to prevent flocculation or lysis or coagulation. He emphasizes that there are numbers of well tried substances at our disposal for this capable of reducing the surface tension or augmenting the viscosity without any risk. Among the antilytic substances cholesterin has been the best studied.

Cardiovascular Complications of Malaria—The treatment of old heart and aorta lesions for which malaria is responsible has to be addressed merely to the heart. Quinin has no action on the dilatation of the heart once established from the influence of the malaria. The gravity inherent in all heart affections is enhanced by the debility from the malaria and the liability to new febrile attacks.

Is Gonococcosis Curable?—Lebreton is convinced that the gonococcus affects the genital organs more than the urinary organs in both men and women. It is not enough to clear the urethra of gonococci to insure that the infection has been eradicated. In 164 cases of chronic urethritis in which the urethral secretion seemed to be sterile under the microscope, cultivation of the semen revealed gonococci in 70 per cent. The sperma is evidently responsible in many instances for the infection of the wife when the husband has long been supposedly cured of his gonorrhea. An autogenous antigonococcus vaccine is often effectual in dislodging the gonococci in the

deeper organs He gives a series of six doses and then waits two weeks and repeats the series once or twice, as the most effectual method yet known for 'degonococcization" It proved successful in all but one of sixty-seven chronic cases thus treated, and this one would probably have been cured by a supplementary series The success was complete also in three cases of suppurating prostatitis, although five series were required in one case The cure was complete also in three cases of crippling gonococcus rheumatism and in a case of gonococcus pyelonephritis

Expression of Eyes as Sign of Syphilis—Chelmonski remarks that the most artistic artificial eye can always be told from a natural eye and the eyes of syphilitics have a certain aspect which tells the story of the infection The reactions of the pupils are less pronounced than normal, they may be oval, the anterior chamber may be flat, the cornea dull, the vessels constricted

Archivio Italiano di Chirurgia, Bologna

May 1922 **5**, No 4

*Early Traumatic Epilepsy P L Della Torre—p 349
*Hemostasis for Resection of Liver E Angeletti—p 400
Hernial Appendicitis A Milham—p 419
Cystic Protrusion of Ureter into Bladder R Cassanello—p 429
*Foreign Bodies and Leukoplasia in Kidney Pelvis C Romiti—p 449

Early Traumatic Epilepsy—This is a study of nine operative cases in the war wounded Epilepsy developed in 9 per cent of those wounded in the head during Della Torre's early experience in the war He gives an illustration of the regions of the skull in which trauma is most liable to be followed by epilepsy Seven of the nine were cured by his operation and all have resumed their regular occupation although two still have attacks of the traumatic epilepsy

Hemostasis in Resection of the Liver—Angeletti had occasion to remove a large tumor in the liver of a woman of 51 His assistant arrested the hemorrhage by compression with his fingers while Angeletti cut a long strip, over 1 cm wide, from the aponeurosis of the rectus muscle on each side of the incision, taking up a little of the muscle with it Each strip was then laid on the liver close to the raw edge, the two strips thus encircling the entire raw area, a little back from the edge A series of seven or eight U stitches were then taken, traversing the upper strip, the whole of the liver and the under strip, and back again The U sutures were symmetrical, and when they were tied the tissues forming the edge of the raw expanse were drawn close enough together to insure hemostasis Another row of sutures was then taken to draw the edges, the sides of the wedge, together and thus close the gap in the liver He describes other ways to utilize this principle of an aponeurosis strip for a border to suture into after resection of the liver Seven illustrations show the exact technic In future he would not attempt to drain The aponeurosis and muscle strip border possibly might be sutured in place before the resection is begun He reviews the entire history of attempts at bloodless surgery of the liver crediting the first successful attempt to an Italian surgeon in 1716

Foreign Bodies in Kidney Pelvis—Hydronephrosis of probable congenital origin became infected and required long surgical treatment in the course of which four fragments of drainage tubes were left in the kidney pelvis The young man was finally cured by nephrectomy The case reaffirms the necessity for postoperative supervision When the care after operations is left to the family, we can scarcely escape such mishaps

Pediatria, Naples

June 1 1922 **30** No 11

*Intra Uterine Transmission of Scarlet Fever O Cozzolino—p 481
*Primary Progressive Myopathy Four Cases L Auricchio—p 488
Acute Endocarditis in Nursling with Heart Defect A F Canelli—p 495

Intra-Uterine Transmission of Scarlet Fever—Cozzolino relates that the mother died the fifth day of scarlet fever that appeared after she entered the maternity for the childbirth Her child of 21 months died the second day of fulminating scarlet fever that had developed six days after the death of the mother The new-born child developed scarlet fever when 20 days old The infant's urine had been pathologic for a day or two, and the child the nineteenth day presented the clinical picture of classic hemorrhagic glomerular nephritis for which no cause could be discovered except the scarlet fever He thinks the circumstances render intrauterine transmission of the scarlet fever extremely probable

Primary Progressive Myopathy—In Auricchio's case the four brothers under 13 presented different stages of the primary progressive myopathy No benefit was apparent from vigorous thyroid or antisyphilis treatment

Policlinico, Rome

May 29 1922 **29**, No 22

*Relations Between Asthma and Tuberculosis E Bufalini—p 709
*Epidemic Lymphadenitis A Sala—p 717
*Treatment of Anthrax T Biancheri—p 718
*Treatment of Anthrax L Conti—p 720
*Postencephalitic Parkinsonism T Silvestri—p 721

Asthma and Pulmonary Tuberculosis—Bufalini tabulates the findings in 10 men and 12 women with asthma, recording the heredity, the antecedents, the response to tuberculin tests the findings in the lungs, etc In 15 of the 22 some affection of the respiratory tract had preceded the asthma, but only a few had been tuberculous Tuberculin tests were positive in 19, active pulmonary tuberculosis was evident only in one instance

Epidemic Lymphadenitis—Sala relates that since the epidemic wave of influenza and epidemic encephalitis, there has been a local epidemic of jaundice in his region (900 cases) This was followed last August by an epidemic of buboes Twenty cases were observed the glands in the groin swelling and sometimes ulcerating This lymphadenopathy suggested bubonic plague at first All the patients recovered after a course of three or four months Vanni isolated a micrococcus from the glandular lesions which reproduced the disease in guinea-pigs and other animals

Serotherapy of Anthrax—Biancheri protests against incision of the focus as intramuscular or subcutaneous injection of the antiserum has always proved effectual in his experience unless the patient was moribund when first seen He injects 60 c c at first and then 20 c c each day After the local inflammation has entirely subsided he excises the eschar to hasten the healing Conti on the other hand, excises the lesion completely with a deep circular incision The mortality was 3 33 per cent in sixty cases treated in this way while it was 20 per cent in twenty treated by a crucial incision

Paradoxic Sign of Postencephalitic Parkinsonism.—Silvestri reports two striking cases of the phenomenon to which Masci called attention as was summarized here July 8, 1922, p 168 In Silvestri's cases the parkinsonism was extremely pronounced in the girl of 13 and the young man at all times except when the girl was dancing and the young man was bicycling The movements of the dancing girl and the speeding bicyclist seemed to be normal in every respect Abbruzzetti reported this paradoxic behavior in 1920 and Tilney and Souques have also called attention to it the latter styling it paradoxic kinesia.

Riforma Medica, Naples

May 1 1922 **38** No 18

*Cause of Adenoids P Brisotto—p 409
A Precancer Lesion of the Lip G Anzilotto—p 411
*Influence of Pituitary Extract on Bladder M G Serdinkoff—p 413
Simplification of Daneey Ureometer G Candido—p 417

Cause of Adenoids—Brisotto found inherited syphilis certain or very probable in 56 per cent of 150 children with adenoids, and tuberculosis in 24 per cent In 8 per cent there was both tuberculosis and inherited syphilis Hypothyroidism was evident in 6 per cent, and in 2 per cent there was a history of alcoholism or consanguineous marriages He theorizes that the adenoid vegetations represent merely a defensive reaction carried to excess Resection of the adenoids is only symptomatic treatment it is useful only when associated with treatment to modify the general condition of the bone and lymphatic systems

Influence of Pituitary Extract on the Bladder—Serdinkoff calls attention to the remarkable efficacy displayed by two injections of pituitary extract in a case of retention of urine from paresis of the bladder secondary to pyelonephritis from metritis in a woman of 32 Spontaneous micturition had been

impossible for thirty-five days The bladder had been enormously distended before the retention was recognized and the paresis had developed the seventh day of the retention She had had a similar attack of retention of urine three years before with cystitis, and there was a history of three or four abortions without appreciable cause The tonus of the smooth muscle of both uterus and bladder was evidently abnormal, and this was effectually combated by the pituitary treatment

Archivos de Enf del Corazon, etc, Barcelona

February, 1922 **1** No 1

Interpretation of Variations in Venous Pulse Durán Arrom —p 7
Idem in the Tuberculous Idem —p 26
Idem with Thyroid Disease Idem —p 32

Interpretation of Variations in Venous Pulse—Durán Arrom compares and criticizes hundreds of venous pulse tracings He regards as especially important the interval between the *a* wave and the *c* wave

Archivos Españoles de Pediatria, Madrid

May 1922 **6** No 5

Significance of Chvostek's Sign J Nogueras Coronas —p 257
Schick Reaction in Prophylaxis of Diphtheria Duarte Salcedo —p 261
Bednar's Aphthae? G de Los Terreros —p 27

Archivos Latino-Amer de Pediatria, Buenos Aires

May 1922 **16** No 5

*Bibliography on Children's Diseases J A Trillo —p 1

Argentine Pediatric Bibliography—This compilation was mentioned in the News columns, July 22, p 311

Brazil-Medico, Rio de Janeiro

April 15 1922 **1** No 15

Bismuth in Treatment of Syphilis H Parreiras Horta and P Caus —p 183
Vaccine Therapy of Ozena S C da Silva —p 184
Toxicity of Chenopodium Pio Alves Pequeno Junior —p 185

April 29 1922 **1**, No 17

*Medical Ethic João A C Froes —p 211
Influenza in Its Relations to Air Passages S Cezar da Silva —p 216

Medical Ethics—This lecture on the principles of medical ethics was Froes' inaugural lecture in the course on clinical medicine at Bahia He remarked that clinical medicine everywhere is passing through an experience like that of Laocoon's struggle with the serpents There is only one way to insure victory, that is, to exalt the dignity of the profession guarding the same as one's own the dignity of other physicians and maintaining moral fraternal and scientific relations with the other members of the profession Medical societies aid materially in the progress of science stimulating emulation and strengthening the ties of professional brotherhood by better mutual acquaintance He quotes freely from a French novel 'The New Doctor" by Previeux to illustrate what he says of the cancer of envy and charlatanism the latter "the original sin of medicine of old the shame and disgrace of medicine of today

Cronica Medica, Lima, Peru

February 1922 **39** No 704

*Sclerosis of Neck of Bladder E P Manchego —p 33
Correction of Perforation of Palate F La Torre —p 42
The Prehemorrhagic Stage in Typhoid A Ricaldoni —p 48

Sclerosis of Neck of Bladder—Manchego remarks that this condition is frequently mistaken for hypertrophy of the prostate in the elderly and for a stricture in the urethra in younger men *In some of the six cases he describes this* mistake was made in two cases there were polyp growths bedsides Infection is the rule because the catheter has to be used early The extreme difficulty in voiding urine contrasts with the ease with which even large instruments can be passed into the bladder Systematic dilation always improves and resection of the fibrous tissue cures completely in 75 per cent of the cases Buerger's method of procedure is described In two cases Pazos Varela found that the neck of the bladder and upper urethra formed a stiff sheath requiring resection of the internal sphincter One of Manchego's patients was left with incontinence after the operation but this was cured by resecting a fibrous band which had formed In two cases, time and efforts had been wasted on the mistaken diagnosis of hypertrophy of the prostate A huge fistula was left

Perforation of Palate—The syphilitic bone and mucous membrane lesion healed under treatment, and the defect was closed by suture and a prosthesis

Gaceta Medica de Caracas, Venezuela

Feb 28 1922 **29** No 4

History of Gallstone Surgery in Venezuela S Cordoba —p 44
Criticism on Above L Razetti —p 51

Revista Española de Medicina y Cirugia, Barcelona

April 1922 **5** No 46

Fracture of the Clavicle Soler Julia —p 179
Therapeutic Diets A A Pereira —p 184
Syphilitic Heart Disease S A Meza and J Paulis —p 199
The Book of the Plague A D 1599 I Mercado —p 200

Fracture of the Clavicle—Soler Julia gives an illustrated description of the Esquerdo plaster bandage which leaves the hand and elbow joints free and interferes only slightly with the use of the shoulder Flannel is cut double in the shape of half of a man's vest Each half is coated with plaster on a table and then one half is laid on the other the plaster between and this half-vest is then fitted over the trunk packing the axilla thick with cotton Broad bands of glued tarletan are then wound around the trunk and shoulder, molding the plaster cast to the back and front and forming a stiff collar that forces the head up a little and toward the sound side It forms also a stiff sleevelet that prevents the arm from being moved forward The cotton in the axilla raises the shoulder Ordinary use of the arms is not interfered with the boy can play ball with both hands the housemaid keep on with her duties and the cast can be removed and massage commenced the twenty-fifth day in the young

Syphilitic Heart Disease—Meza and Paulis say that Cesa-Bianchi's recent discovery of spirochetes in the heart in inherited syphilis confirms the necessity for suspecting syphilis in all kinds of heart disturbances They list twelve different forms of heart disease that it may assume and emphasize that electrocardiography is one of the most reliable means to detect latent mischief of this kind By prompt treatment we may avert irreparable damage and sudden early death

Revista de Medicina y Cirugia, Havana

May 25 1922 **27** No 10

Fixation of the Kidney O Ledon Uribe —p 331
Anomaly in Femoral Artery E Bru —p 336
Anomaly in Subclavian Artery G Insua Cartaya and L Carillo y Ortiz —p 340

Fixation of Kidney—Ledon Uribe frees the last rib and slides the kidney on this rib A tunnel is made for it under the capsule He has applied this method in several cases It avoids the disadvantages of other methods Only the two small incisions to make the tunnel in the upper half of the posterior aspect are required The illustrations show how the tunnel slopes to fit the rib

Revista Medica del Uruguay, Montevideo

April 1922 **25** No 4

*The World War Against Tuberculosis M Becerro de Bengoa —p 65
Fractures of Anterior Arch of Atlas A di Lorenzo —p 313
*Lithopedion C Legnani —p 16
Present Status of Bismuth Treatment of Syphilis Jose Mas —p 20

Failure of the World War Against Tuberculosis—Becerro de Bengoa asserts that the death rate from tuberculosis is constantly increasing notwithstanding the great concerted efforts against it He outlines a system of tactics that would exterminate tuberculosis sooner or later His *formula de la victoria* is to have the entire populace examined for tuberculosis once a year at public expense with segregation of the 'open cases in special public or private sanatoriums or colonies until they are no longer contagious or they die the breadwinners to be given a pension until recovery or death

Lithopedion—In Legnani's case the fetus weighed 1 000 gm and the size corresponded to term It was found free in the abdominal cavity over four years after the last fetal movements had been felt The woman had borne two children before

deeper organs He gives a series of six doses and then waits two weeks and repeats the series once or twice, as the most effectual method yet known for "degonococcization" It proved successful in all but one of sixty-seven chronic cases thus treated, and this one would probably have been cured by a supplementary series The success was complete also in three cases of suppurating prostatitis, although five series were required in one case The cure was complete also in three cases of crippling gonococcus rheumatism and in a case of gonococcus pyelonephritis

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Archivos d l Enf del Corazon, etc, Barcelona

February 1922 **1**, No 1

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Archivos Españoles de Pediatria, Madrid

May 1922 **6** No 5

Significance of Chvostek's Sign F Nogueras Coronas —p 257
Schick Reaction in Prophylaxis of Diphtheria Duarte Salcedo 1 61
Bednar's Aphthae? G. de Los Terreros —p 275

Archivos Latino-Amer de Pediatria, Buenos Aires

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Bismuth in Treatment of Syphilis H Barreiros Horta and P Cruz —p 183
Vaccine Therapy of Ozena S C da Silva —p 184
Toxicity of Chenopodium Pio Alves Pequeno Junior —p 185

April 29 1922 **1** No 17

Medical Ethics João A G Froes —p 211
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Cronica Medica, Lima, Peru

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Correction of Perforation of Palate F La Torre —p 42
The Prehemorrhagic Stage in Typhoid A Ricaldoni —p 48

Sclerosis of Neck of Bladder—Manchego remarks that this condition is frequently mistaken for hypertrophy of the prostate in the elderly and for a stricture in the urethra in younger men In some of the six cases he describes this mistake was made in two cases there were polyp growths bedsides Infection is the rule because the catheter has to be used early The extreme difficulty in voiding urine contrasts with the ease with which even large instruments can be passed into the bladder Systematic dilation always improves, and resection of the fibrous tissue cures completely in 75 per cent of the cases Buerger's method of procedure is described In two cases Pazos Varela found that the neck of the bladder and upper urethra formed a stiff sheath requiring resection of the internal sphincter One of Manchego's patients was left with incontinence after the operation, but this was cured by resecting a fibrous band which had formed In two cases, time and efforts had been wasted on the mistaken diagnosis of hypertrophy of the prostate A huge fistula was left

Perforation of Palate—The syphilitic bone and mucous membrane lesion healed under treatment, and the defect was closed by suture and a prosthesis

Gaceta Medica de Caracas, Venezuela

Feb 28 1922 **29** No 4

History of Gallstone Surgery in Venezuela S Cordoba —p 44
Criticism on Above L Razetti —p 51

Revista Española de Medicina y Cirugia, Barcelona

April 1922 **5** No 46

Fracture of the Clavicle Soler Julia —p 179
Therapeutic Diets A A Pereira —p 184
Syphilitic Heart Disease S A Meza and J Paulis —p 199
The Book of the Plague A D 1599 J Mercado —p 200

Fracture of the Clavicle—Soler Julia gives an illustrated description of the Esquerdo plaster bandage which leaves the hand and elbow joints free and interferes only slightly with the use of the shoulder Flannel is cut double in the shape of half of a man's vest Each half is coated with plaster on a table and then one half is laid on the other the plaster between and this half-vest is then fitted over the trunk padding the axilla thick with cotton Broad bands of glued tarletan are then wound around the trunk and shoulder molding the plaster cast to the back and front and forming a stiff collar that forces the head up a little and toward the sound side It forms also a stiff sleeveless that prevents the arm from being moved forward The cotton in the axilla raises the shoulder Ordinary use of the arms is not interfered with the boy can play ball with both hands the housemaid keep on with her duties and the cast can be removed and massage commenced the twenty fifth day in the young

Syphilitic Heart Disease—Meza and Paulis say that Cesa Branchi's recent discovery of spirochetes in the heart in inherited syphilis confirms the necessity for suspecting syphilis in all kinds of heart disturbances They list twelve different forms of heart disease that it may assume and emphasize that electrocardiography is one of the most reliable means to detect latent mischief of this kind By prompt treatment we may avert irreparable damage and sudden early death

Revista de Medicina y Cirugia, Havana

May 25 1922 **27** No 10

Fixation of the Kidney O Ledon Uribe —p 331
Anomaly in Femoral Artery E Bru —p 336
Anomaly in Subclavian Artery G Insua Cartaya and L Carillo y Ortiz —p 340

Fixation of Kidney—Ledon Uribe frees the last rib and slides the kidney on this rib A tunnel is made for it under the capsule He has applied this method in several cases It avoids the disadvantages of other methods Only the two small incisions to make the tunnel in the upper half of the posterior aspect are required The illustrations show how the tunnel slopes to fit the rib

Revista Medica del Uruguay, Montevideo

April 1922 **25** No 4

The World War Against Tuberculosis M Becerro de Bengoa —p 89
Fractures of Anterior Arch of Atlas A di Lorenzo —p 311
Lithopedion C Legnani —p 316
Present Status of Bismuth Treatment of Syphilis Jos Mas —p 320

Failure of the World War Against Tuberculosis—Becerro de Bengoa asserts that the death rate from tuberculosis is constantly increasing notwithstanding the great concerted efforts against it He outlines a system of tactics that would exterminate tuberculosis sooner or later His *formula de la victoria* is to have the entire populace examined for tuberculosis once a year at public expense with segregation of the 'open' cases in special public or private sanatoriums or colonies until they are no longer contagious or they die the breadwinners to be given a pension until recovery or death

Lithopedion—In Legnani's case the fetus weighed 1 000 gm and the size corresponded to term It was found free in the abdominal cavity over four years after the last fetal movements had been felt The woman had borne two children before

deeper organs He gives a series of six doses and then waits two weeks and repeats the series once or twice, as the most effectual method yet known for "degonococcization" It proved successful in all but one of sixty-seven chronic cases thus treated, and this one would probably have been cured by a supplementary series The success was complete also in three cases of suppurating prostatitis, although five series were required in one case The cure was complete also in three cases of crippling gonococcus rheumatism and in a case of gonococcus pyelonephritis

Expression of Eyes as Sign of Syphilis—Chelmonski remarks that the most artistic artificial eye can always be told from a natural eye and the eyes of syphilitics have certain aspect which tells the story of the infectio reactions of the pupils are less pronounced th they may be oval, the anterior chamber may be cornea dull, the vessels constricted

Archivio Italiano di Chirurgia, Bol

May 1922 5, No 4

*Early Traumatic Epilepsy P L Della Torre—p 3
*Hemostasis for Resection of Liver E Angeletti—
Hernial Appendicitis A Miliani—p 419
Cystic Protrusion of Ureter into Bladder R C
*Foreign Bodies and Leukoplasia in Kidney Pelv

Early Traumatic Epilepsy—This is a tive cases in the war wounded Epil cent of those wounded in the head experience in the war He gives of the skull in which trauma is epilepsy Seven of the nine all have resumed their reg have attacks of the trau

Hemostasis in Resec to remove a large t assistant arrested fingers while A the aponeuro incision, tal was ther strips the tal

Partial Resection of Bladder—In Salleras' case the cystoscope showed an ulcerated tumor, 3 cm in diameter high in the bladder The first symptom had been hematuria, in the man of 52 The hematuria returned occasionally during the following two months and there had been slight pain just above the symphysis, and the weight declined Salleras did not attempt endovesical measures but resected that portion of the bladder wall with the myo-epithelioma and the adherent peritoneum The health has been perfect during the three years to date Attempts at electrocoagulation would have been disastrous as it would have been impossible to reach the entire tumor with it

Diagnostic Blanching or Extinction Phenomenon in Scarlet Fever—Rojo's experience has confirmed the specific and reliable nature of the Schultz-Charlton phenomenon in the differential diagnosis of scarlet fever In his eighteen cases it was positive in nearly 78 per cent and constantly negative in the four cases of eruptions of other nature It was post-

logic for a day or two, and presented the clinical picture lar nephritis for which ne the scarlet fever He t uterine transmission

Primary Progres four brothers u primary progre vigorous thyr

uti prove second the fatal case, two we in all the case in all but one cas metritis was the wor tonitis always accompa angitic or thrombophlebi renders any operation futile

Mechanical Dilatation of the calls attention to an old and forgotte is superior to all similar instrument blades are connected with a spring for which holds the blades at rest, slanting outwa apart The blades are closed and held with fo instrument is introduced The spring forces the bl and they stretch the lumen to 5 cm at the upper ends blades In his two and half years experience with it th was never any injury except occasionally a slight erosion at the internal os where the blades spread farthest apart. The shape of the dilatation is the physiologic shape

Deutsches Archiv fur klinische Medizin, Leipzig

May 23 1922 139 No 5 6

*Research on Percussion and Auscultation III P Martini—p 25
Gas Interchanges in Obesity and Pituitary Disease R Plaut—p 283
*Test for Bilirubin in Blood E Herzfeld—p 306
Pathogenesis of Cancer Anemia M J Roesingh—p 310
Factors Regulating Venous Blood Pressure C Kroetz—p 325
Metabolism in Spleen and Liver Disease E Grafe—p 354
*Influence of Muscular Work on Diabetes E Grafe and H Salomon—p 369
Roentgen Study of Heart Function H Assmann—p 380

Research on Percussion and Auscultation—Martini's work is being done on a special scientific grant Six plates give the findings in normal and infiltrated lungs to illustrate the laws he has deduced He remarks parenthetically that the diagnostic importance of bronchophony is not appreciated yet The modification in this in case of pathologic conditions can often be detected earlier than any other changes

Color Test for Bilirubin—Herzfeld commends for quantitative estimation of bilirubin in the blood serum, Hammarsten's reagent as an extremely simple and reliable test It is not necessary to remove the albumin The reagent is one part of 25 per cent nitric acid and nineteen parts of 25 per cent hydrochloric acid To use, one part of the reagent is diluted with four parts of alcohol

The Metabolism with Spleen and Liver Disease—In seven of the nine cases Grafe tabulates, the spleen was very much enlarged, in the other two the liver was extremely pathologic Two of the splenomegaly cases were of the Gaucher type and one was cured by splenectomy Four were of the Banti type The temperature was normal or subnormal, but the

Semana Médica, Buenos Aires

May 4 1922, 1, No 18

Anomaly of Right Subclavian Artery A Gutierrez —p 697
Two Reactions of Piperazin and Lycetol J A Sanchez —p 700
The Vagus and the Sympathetic System P de Rabinovich —p 703
*Rib Resection for Cheesy Focus in Lung Gumersindo Sayago and J M Allende —p 715
Vaccine from Dissociated Elements of Bacterial Protein R Carcamo —p 718
Cerium Salts in Treatment of Tuberculosis P Alurralde —p 726
Need for Organization of the Profession C Carreno —p 729

Rib Resection for Cheesy Focus in Lung—There was a large cavity in the upper lobe of the left lung but the right lung seemed sound Attempts to induce artificial pneumothorax had failed but complete success followed resection of ribs close to the spine The technic followed was that which Wilms calls 'columnar resection', a total of 60 cm was resected from the second to the tenth ribs, inclusive, and twenty days later, part of the eleventh rib The chest measure dropped from 88 to 79 cm, the transverse diameter from 28 to 23 cm

May 11, 1922 1, No 19

Indications with Difficult Delivery E A Boero —p 737
Biologic Treatment of Infection H Dasso —p 745
Variations in Children's Weight J C Navarro and E. A Beretervide —p 746
*Resection of Bladder J Salleras Pages —p 755
Polyvalent Hormone Therapy A Lamarque —p 758
Apparatus for Recording Reacting Time V Tedeschi —p 768 Reply J Ramon Beltran —p 771
Farm Colony for the Chronic Tuberculous F Cornil —p 773
*The Extinction Sign of Scarlet Fever D J Rojo —p 776

Indications in Dystocia—Boero refers to cases in which delivery is impossible on account of the defective development of the lower segment of the uterus The cervix feels like a cylinder, 5 or 6 cm long with three rings slipped over it The upper ring is so rigid that any attempt to deliver by the natural route is sure to tear the uterus The presenting fetus is high, almost unreachable from the vagina This form of dystocia is seldom recognized until late after the ineffectual labor contractions have long continued He has had this form of dystocia in women who had never had any trouble in former pregnancies The lower segment of the uterus had been vigorously cauterized in some of the cases he describes and he incriminates the cicatricial changes left from this or from curetting, as impeding the normal stretching of the cervix It differs in several respects from the dystocia for which spasm of Bandl's ring is responsible The ineffectual labor contractions merge into tetanization, and this passes into a phase of rigid retraction The tissues in this phase tear easily In five of the six cases described, the uterus ruptured during the efforts to deliver the fetus by the normal route even when the fetus had been dismembered

Variations in Weight of Children—Navarro records the variations in weight of 110 children given various tonics He is inclined to ascribe the remarkable gains made by some of the children, in large part, to the mental impressions from the weighing and attention otherwise and urges systematic weighing as a means to rouse the appetite and interest of children in their physical development

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Diagnostic Blanching or Extinction Phenomenon in Scarlet Fever—Rojo's experience has confirmed the specific and reliable nature of the Schultz-Charlton phenomenon in the differential diagnosis of scarlet fever In his eighteen cases it was positive in nearly 78 per cent and constantly negative in the four cases of eruptions of other nature It was positive by the second day in fourteen of the eighteen scarlet fever children and allowed their prompt isolation The test is made with 0.5 or 1 c c of normal human serum injected intradermally where the eruption is most pronounced. The eruption disappears completely in a zone from 2 to 10 cm. wide around the point of injection in case of a positive response

Archiv fur Gynakologie, Berlin

May 20 1922 116 No 1

*Gas Gangrene Infection of Uterus H Brütt —p 1
Surgical Treatment of Delivery with Contracted Pelvis A Wollner —p 26
Teeth in Ovarian Teratomas J Steinhoff —p 53
Test of Liver Function in Pregnancy B Walthard —p 68
Action on Humors of Colloidal Silver (Dispargen) and Pregl's Solution in Puerperal Septic Processes A Mahnert and A Sautner —p 98
Ovarian Hematoma H Runge —p 116
Aneurysm of Uterine Vessels E Vogt —p 129
Can a Pregnancy Last Over 302 Days? E Zweifel —p 140
*Dilating Instrument The Metranoikter S Stephan —p 161
Torsion of Cervix of Myomatous Uterus N Ellerbroek —p 171
New Anomaly of Umbilical Cord B Ollow —p 176
Young Human Ovum in Situ W v Mollendorff —p 200

Gas Gangrene of the Uterus—Brütt describes six cases of physometra from puerperal gas gangrene infection of the uterus In one case the fulminating gas gangrene infection proved fatal in thirty hours from the stormy onset In the second case anaerobic streptococci must be incriminated for the fatal complicating peritonitis and pneumonia in another case two weeks after the operation The uterus was removed in all the cases but the conditions were already beyond help in all but one case In another woman, a gangrene inducing metritis was the work of anaerobic streptococci alone Peritonitis always accompanied the gas gangrene With lymphangitic or thrombophlebitic sepsis, the fulminating course renders any operation futile

Mechanical Dilatation of the Uterine Cervix—Stephan calls attention to an old and forgotten dilator which he thinks is superior to all similar instruments in vogue The two blades are connected with a spring forming a half circle which holds the blades at rest, slanting outward about 5 cm. apart The blades are closed and held with forceps as the instrument is introduced The spring forces the blades apart and they stretch the lumen to 5 cm at the upper ends of the blades In his two and half years experience with it there was never any injury except occasionally a slight erosion at the internal os where the blades spread farthest apart The shape of the dilatation is the physiologic shape

Deutsches Archiv fur klinische Medizin, Leipzig

May 23 1922 139 No 2 6

*Research on Percussion and Auscultation III P Martini —p 257
Gas Interchanges in Obesity and Pituitary Disease R Plaut —p 278
Test for Bilirubin in Blood E Herzfeld —p 306
Pathogenesis of Cancer Anemia M J Roessingh —p 310
Factors Regulating Venous Blood Pressure C Kroetz —p 325
*Metabolism in Spleen and Liver Disease E. Grafe —p 354
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basal metabolism in all was abnormally high True primary cirrhosis of the liver, even when accompanied by enlargement of the spleen does not seem to send up the basal metabolism, while it is always high with splenomegaly of the Gaucher and Banti types "When the gas exchanges in a case of splenomegaly show the basal metabolism within normal range then splenectomy is contraindicated, as there is no toxic element to be eliminated by removing the spleen"

Influence of Muscular Exercise on Combustion of Sugar in the Diabetic—Grafe and Salomon report research on nine diabetics which showed that the combustion of sugar increased absolutely during exercise, but relatively it dropped materially The greater expenditure of energy must have been at the expense of the fat In conclusion they remark that all such experiences confirm the truth of the saying that fatigue is a sensitive and reliable gage of the injury of the body by any disease process

Deutsche medizinische Wochenschrift, Berlin

June 2 1922 48, No 22

*High Blood Pressure without Kidney Involvement F Kulbs—p 717
Conservative Operation on Esophageal Diverticulum Konig—p 719
Healing of Esophageal Carcinoma Following Roentgen Irradiation A Beck—p 720
Comparison of Roentgenograms of Lung F Peltason—p 721
*Pituitary Tumors M Kent chalowsky and A Eisenstein—p 722
Occurrence and Significance of Reticular Fibers in Syphilis and Other Cutaneous Diseases E Zurhelle—p 724
Volvulus Affecting the Entire Small Intestine Heymann—p 725
Healing of Fractures and Pseudarthrosis M Zondek—p 727
Treatment of Ankylosis of Jaw Bockenheimer—p 729
Treatment of Enuresis with Camphor C Pototzky—p 730
Acute Occlusion of Intestine G Ledderhose—p 733
Technic of Treatment of Displaced Uterus H Freund—p 735

High Blood Pressure Without Kidney Involvement—Kulbs has found that there is a comparatively large number of patients with high blood pressure without clinically demonstrable affections of the kidneys In fact, the number seems to be increasing He discusses a series of 288 cases The working class does not seem to be affected as much as the professional or educated circles The causal factors seemed to be psychic excitement the climacteric syphilis, nicotine, alcohol, obesity, gout, and organic heart disease The majority of the patients improved (reduction to from 150 to 160 mm of mercury) under treatment proper rest periods, restriction of salt venesection small doses of digitalis, and potassium nitrate As a rule the subjective symptoms were relieved and the physical and mental capacity were improved

Conservative Operation on Esophageal Diverticulum.—Konig has tried a conservative operation on esophageal diverticulum in two cases He thinks that it is indicated at least in weak patients who could scarcely survive the radical removal of the sac, and that after more extensive trial, it may prove to have still wider indications in order to avoid the element of danger in the more radical operation in which the mortality ranges around 6 or 8 per cent The sac of the diverticulum is exposed and dissected free The contents are pressed out The flabby folded sac is drawn up laterally and sutured to the periosteum of the hyoid bone in its posterior portion To make the fixation still more secure he draws the loose sac up under the anterior portion of the omohyoid muscle, which on that account must be left intact it is also fastened to this muscle by a few stitches If the sac is sufficiently long this gives a very firm fixation and the omohyoideus helps also in relieving the sac of its contents Local anesthesia is employed The sac remains but the main thing is that food does not stagnate in it

Roentgen Irradiation of Hypophysial Tumors—Kontschalowsky and Eisenstein state that, in view of the fact that attempts at operative removal of tumors of the hypophysis result still in a very high mortality, recurrences also being very common since in many cases the operator does not succeed in removing the whole tumor roentgen irradiation which with cautious technic is not dangerous and usually gives good results, is to be preferred Only in cases in which roentgen irradiation proves useless (mostly colloidal cysts) and the eye symptoms and the severe headaches become alarming should an operation be undertaken as a last resort

Jahrbuch für Kinderheilkunde, Berlin

June 1922 98 No 5 6

Influence of Whey on Intestinal Epithelium IX P Gyorgy—p 245
Pyocyaneus Infection in Children E Dudden—p 257
Uremia and the Ambard Constant in Sick Infants I C Koch—p 276
Acromegaly and Giant Growth in Children K Kundratitz—p 292
*The Wildbolz Urine Reaction in Children J C Schippers and S B de Vries Robles—p 299
*Composition of Infant Brain F Faerber—p 307
*Serodiagnosis of Scurvy Leichtentritt and Zielaskowski—p 310

Ecthyma Gangrenosum—In Dudden's three cases of ecthyma gangrenosum the pyocyaneus seemed to be solely responsible The children were 5 and 7 months and 4 years old, and none survived The gangrenous affection was on the back or seat or both, and it had followed pneumonia in all In another child, the pyocyaneus had induced lesions on the stomach and intestine mucosa which resembled those on the skin in his cases Irritation from urine stools and sweat should be warded off in prophylaxis with weakly children Hydrotherapeutic procedures might be given a trial, as well as symptomatic measures In the older child a tendency to retrogression of the skin lesions was evident toward the last, but the pyocyaneus was cultivated from the spinal fluid

The Own Urine Reaction in Tuberculous Children—The verdict was decidedly unfavorable after repeated examination of sixty seven children over long periods

Chemical Analysis of Infants' Brains—The infants analyzed in the group here reported had all died from toxicosis Nothing differing essentially from the findings in the brains of infants dying from other causes could be discovered

Serodiagnosis of Scurvy—Leichtentritt and Zielaskowski have been studying in human blood the normal protecting influence against trypanosoma infection in animals This trypanocidal property was found in human blood and the blood of apes by Laveran in 1902 but it has wide individual differences The suggestion is here made that these individual differences may be due to the resisting powers of the organism at the moment If this is accepted then the inference follows that the intensity of the trypanocidal action may serve as a gage for the resisting powers In the prematurely born, the children suffering from infection or from lack of vitamins the resisting powers are at such a low ebb that the production of the trypanocidal substance is temporarily in abeyance Hence the negative response to tests for this substance may aid in the differential diagnosis and in the grouping of certain maladies, reveal their connection

Klinische Wochenschrift, Berlin

April 8 1922 1 No 15

Gout and Nuclein Metabolism A Schittenhelm—p 713
Pathogenesis of Chronic Gastric Ulcer R Nissen—p 715
Quantitative Test for Indican in Blood Snapper and van Vloten—p 718
Bases and Indications for Calcium Therapy Dresel and Jakobovitz—p 721
*Experimental Research on Autotransfusion of Blood Furukawa—p 723
Effect of Gymnasium Work and Sports on Adult Herxheimer—p 725
Nerve Paralysis and Irritation in Relation to Trophic Changes Bruning—p 729
Treatment of Spondylitis with Cautery W H Wirth—p 732
Immunologic Conditions of Foot and Mouth Disease in Cattle and Guinea Pigs P Uhlenhuth and W Bieber—p 734
Stimulative Effect of Food in Purin Metabolism Joel—p 735
Technic and Clinical Value of Colloidal Gold Test of Cerebrospinal Fluid O Grutz—p 735
A Thoracopagus W Gorn—p 736
Bilateral Herpes Zoster E Hillenberg—p 737
Susceptibility of Young Children to Influenza Meyer—p 737
Roentgen Irradiation of Uterine Carcinoma L Seitz—p 741
Phenomenal Memories T G Hegge—p 742
Recent Views on Blood Sugar P Gyorgy—p 745

Research on the Treatment of Anemia by Autotransfusion of Blood—Furukawa states that the problem of rejuvenation of the blood supply of the organism entered upon a new stage when Kasys Naswitis made his researches to determine whether Haberlandt's observations on plants with respect to the causation of increased cell proliferation by so-called wound hormones would hold good for the higher mammals and more particularly man Naswitis method of experimentation follows Blood was taken from a subject and was either made incoagulable or was defibrinized It was then

placed in a freezing mixture and allowed to freeze, in order to destroy the blood cells It was now thawed out and permitted to stand for several hours at room temperature It was afterward heated to body temperature and was reinjected intravenously or intramuscularly into the same subject from whom it was taken The result was a considerable increase of red blood cells which could be noted in the course of several days The treated subject received in addition no other substance from any donor Only his own blood was reinjected in a changed form sometimes without fibrin, in any event after it had lost something of its original character Nevertheless hematopoiesis was favorably influenced Furthermore Naswitis was able to show that the good effect was associated with or dependent on the fact that the blood had undergone changes or that certain substances had been removed Through the partial destruction of the blood, irritative or stimulative substances are produced therein which excite to activity the hematopoietic or blood producing organs or regions Following Haberlandt's terminology with regard to plants Naswitis names these substances the "wound hormones' of the blood These wound hormones have nothing to do with the hormones of the endocrine glands In order to test the claims of Naswitis Furukawa brought about induced anemia in rabbits and dogs by injections of phenylhydrazin When the anemia had reached a certain degree he took from the experimental animal a small quantity of blood treated the blood after Naswitis method and reinjected it into the animal, either intravenously or subcutaneously The result was an increase of red blood cells Before the frozen and thawed blood is reinjected, it must be allowed to stand at least from two to three hours at room temperature for defibrinated blood exerts a toxic effect unless it is permitted to stand several hours If it is reinjected too soon it will produce shock effects and may possibly cause death Furukawa holds that the relations of blood decomposition to renewed hematopoiesis in the normal body have been suddenly opened up by the Niswitis experiments The whole research has been done at the Pathology Institute at Berlin

Medizinische Klinik, Berlin

June 11 1922 18 No 24

*Gynecology in Relation to War Conditions A Mayer —p 749 Cont'd
*Injection Treatment of Hemorrhoids I Boas —p 750
*Protein Therapy K Brandenburg et al —p 756
Nature and Physiotherapy of Muscular Rheumatism E Tobia —p 760
Office Treatment of Acute Inflammation of Fingers Henrichs —p 764
Structure and Weight of Atom O Liesche —p 765
Rudimentary Obstetrics E Runge —p 767 Cont'n
Recent Literature on Social Hygiene H Ziemann —p 769

Gynecology and Obstetrics During the War—Mayer discusses the effect of war conditions on menstruation and childbearing There was a large number of cases in which a child was born during the war after years of supposedly irremediably sterile marriage Since the war the number of women who apply with complaints of sterile marriage is strikingly large He quotes Siegel's conclusions from 300 cases of conception during the soldier husband's brief leave namely, that between the first and ninth days after menstruation begins the offspring are boys and between the fifteenth and twenty-second days girls are conceived Between these two periods either girls or boys may be conceived but later than these periods between the twenty-third and twenty-eighth days, conception rarely occurs The question is still unsolved as to the phase of the ovum during which it becomes fecundated The menses do not return after the ovum is once embedded in the uterus but menstruation probably can occur during the days after fecundation of the ovum before it has grown large enough for embedding or has even reached the uterus

Injection Treatment of Hemorrhoids—For six years Boas has been treating hemorrhoids with injection of 96 per cent alcohol He here reiterates his assertions in regard to the almost certain success of this excellent method of treatment He declares that any treatment by injections must be regarded as equivalent to an operation To insure aseptic thrombosis, the patient must stay unconditionally in bed for four or five days Intra-anal hemorrhoids do not need drastic measures, they can be kept in control or cured with salves and diligent use of sitz baths The intrarectal ones must each be delivered outside the anus for diagnosis and treatment This can usually be accomplished by straining, if not, an enema of hot salt solution or glycerin will often answer the purpose. Direct stretching of the rectum wall relaxes the internal nodules and may induce paresis of the sphincter, this is liable also when specula are used Aspiration with a Bier vacuum glass has always proved the best means for drawing out the hemorrhoids The aspiration is continued after local anesthesia until the nodules are distended to the utmost and they do not collapse when the cupping glass is lifted Very small amounts of alcohol suffice even for the largest nodules, he does not inject over 10 or 20 drops (0.5 to 1 c.c.) It is important to have no alcohol on the tip of the needle when the nodule is pierced as otherwise the thin wall of the vein becomes necrotic He injects all the hemorrhoids at the one sitting beginning with the small ones as these are liable to slide back first There may be no inconveniences from the procedure or there may be a sensation of fullness as the hemorrhoids swell They must be reduced at once when all have been injected, smearing with liquid petrolatum pushing them up into the rectum as high as possible During the four or five days in bed only fluid food is allowed then a saline purge is given supplemented by an oil enema Even the first stool may be painless The factors that brought on the hemorrhoids in the first place must be kept under control He has had a return of hemorrhoids in only six of the 150 cases he has treated with the alcohol injections In two instances he repeated the injections once or twice When there is already prolapse of the hemorrhoids it is futile to waste time on palliative measures Profuse hemorrhage may occur even without hemorrhoids The only cure here seems to be complete extirpation of the entire hemorrhoidal plexus

Protein Therapy—R Schmidt of Prague was the one who introduced systematic parenteral injections of 5 c.c. of milk into therapeutics and he discusses its value in internal diseases Fischnig in eye disease and Buschke in skin and venereal diseases This shock treatment has 'thrown light on processes such as "protoplasma activation' "increased vital efficiency the healing fever," and the 'healing inflammation The organism seems to be thrown out of the balance which had allowed the disease to become installed Schmidt says that this shock treatment seems to be indicated whenever an acute inflammatory process has passed into a *torpid* chronic phase The parenteral injection induces a local reaction in the focus and has proved useful in torpid joint affections in tuberculous processes in bone and peritoneum, and even in fibrous and torpid febrile processes in the lungs Acute processes like erysipelas may also be remarkably favorably affected In the hemorrhage of typhoid the milk injection has proved an excellent hemostatic He says that neuralgia is another promising field, trigeminal and sciatic neuralgia, and asthma Stimulation of diuresis may occasionally be another indication for it Dragging subfebrile states may be transformed by it The same as tuberculin it may benefit in general paresis He adds that protein bodies may serve usefully as a sensitizing principle to enhance the action of organotherapy for example by combining thyroid treatment with the milk injections we might act more effectually on obesity In all forms of protein therapy he advises to begin with small doses not over 0.1 or 0.5 c.c. of milk, repeating the intragluteal injection on alternate days for four or five weeks with the same or larger doses The maximum he allows is 5 c.c. Slight focal and general reactions are desirable

Fischnig says that the effects of protein therapy in eye affections have been capricious fine results in some and no effect in others Nonmycotic iridocyclitis seems to benefit most and acute gonococcus conjunctivitis in the earliest stages

In skin and venereal affections Buschke says the healing process seemed to be hastened a little in some cases especially with gonococcus epididymitis and arthritis and he was impressed with the relief from the pain The local hyperemia may be [illegible] at on of [illegible] benefit He warns

that latent tuberculous foci are liable to flare up under it The complete retrogression of a bubo or other lesion was very seldom observed under it, and never when the gonococcus was involved

Munchener medizinische Wochenschrift, Munich

May 26 1922 69 No 21

*Primary Carcinoma of the Buccal Cavity H Kuttner —p 771
Effect of Deep Narcosis on Color of Blood from the Capillaries F Kost and J Binger —p 772
*After Treatment of Osteomyelitis A Hofmann —p 773
*Test Sedimentation of Erythrocytes W Dreyfus and P Hecht —p 775
Effect on Aviators of Lack of Oxygen L Noltenius —p 776
Transient Ikterus in Recurrent Fever Oettinger and Halbreich —p 778
Puncture of Prevertebral Abscess L Schede —p 779
Rotation of the Cheek in Plastic Surgery J Esser —p 780
The Language of Bees III Karl von Frisch —p 781
Sensibility and Sensitization in Radiotherapy Voltz —p 782
Experiment with Immune Serum in Cerebrospinal Meningitis L Thomas —p 783
Various Uses of Mustard for Compresses L Kohr —p 784
Treatment of Endemic Goiter Grassl —p 785
Perforative Diverticulitis of the Sigmoid Flexure J Dubs —p 785
Complete Luxation of the Lumbar Vertebrae W Forster —p 786
Appendicitis with Situs Inversus L Franke —p 786
Two Cases of Chronic Ankylosis of the Spine L Brennsohn —p 787

Operative Treatment of Primary Carcinoma of the Buccal Mucosa—Kuttner reports results in his series of 266 cases of primary cancer of the buccal mucosa There were 155 tongue cancers 35 carcinomas of the floor of the mouth, 15 of the mucous membrane of the cheeks 12 of the hard palate and 49 of the tonsils Histologically they were nearly all typical pavement cell carcinomas of the epithelium, there were only two instances of glandular cancer Sex incidence was as 81 to 19, men predominating The largest contingent of men was furnished by the 45-50 age group the largest percentage of women were of the 30 35 age group There were no patients under 20 only 4 between 20 and 30, 43 per cent of the patients were heavy smokers, 22 per cent (exclusively men) presented leukoplakia near the carcinoma Syphilis was demonstrable in 15 5 per cent of the cases, in 33 per cent chronic traumatic irritants, such as the sharp edges of carious teeth and the pressure of artificial teeth could be incriminated Most mouth cavities showed signs of neglect Sixty-one per cent of the patients were subjected to a radical operation 21 4 were inoperable from the start From the time local anesthesia was routinely applied the mortality from lung complications (until 1908 14 per cent) has been reduced to 4 4 per cent The operation consists of two distinct acts a most thorough eradication of the neck glands and the extirpation of the tumor sometimes in one sitting and sometimes in two These cancers are always very refractory and he regards 17 2 per cent of permanent cures in tongue cancer as better than the average result Only when early diagnosis is followed by early operation and no time is lost over useless diagnostic and therapeutic measures will the results be improved The mistake so often made in the presence of a positive Wassermann test, of ruling out carcinoma whereas the predisposition of syphilities, especially if they are heavy smokers to carcinoma of the mouth ought now to be widely known Roentgen irradiation has so far proved of little value Radium treatment which is said to have accomplished better results in America than roentgenotherapy cannot be used extensively in Germany for the present on account of the heavy expense involved

After-Treatment of Osteomyelitis with the Bier Constricting Band—Hofmann admits that he has gone a step further than Hartel and has treated (or tried to treat) not only chronic but also acute cases of osteomyelitis by the Bier method of passive hyperemia Of his twenty-five cases sixteen were chronic and nine acute affections In the chronic form the procedure gave very satisfactory results for the two principal claims shortening of the healing process and securing of a better looking scar, were fully substantiated He describes his technic in detail

Sedimentation of Red Corpuscles in the Prognosis of Chronic Pulmonary Tuberculosis—Dreyfus says that the suspension stability of the erythrocytes promises to become an important aid in determining the activity of a tuberculous process, furnishing a more exact and more reliable indicator in regard to the course of the infection in a given case than observation of the temperature curve

Zeitschrift fur Tuberkulose, Leipzig

May 1922 36 No 4

The Income in Relation to Tuberculosis C Flage —p 245
*Children in Tuberculous Families Braeuning and Hollmann —p 255
Thoracoscopy Unverricht —p 267
Mode of Action of Tuberculin H v Hayek and L Wieser —p 288

The Relations Between the Death Rate from Tuberculosis and the Income—Flugge concludes from numerous statistics cited that what determines the prevalence of tuberculosis is the frequency of intercourse between children and tuberculous adults in a contagious stage and this is often dependent on the income But it need not be he declares Droplet infection can be avoided in the homes of the poor as well as elsewhere with proper care Civilized communities have learned to bathe and change linen and use individual drinking glasses and a generation may come in which it will be considered a disgrace to shed droplets around When children are trained in this the spread of tuberculosis will be much restricted Great progress in arresting the disease may be expected with better feeding Dinners and suppers should be given the tuberculous with moderate incomes The best way to maintain the appetite is to sell or give tickets at the preventorium which will be honored at various eating houses allowing a choice Arrangements might also be made with the eating houses for delivery of the food at home The tickets should not cost more than an ordinary cheap meal, but should entitle the holder to an extra nourishing meal A wide field for useful effort is offered in these attempts to insure extra nourishing food for the tuberculous while striving to maintain their interest and appetite He declares in conclusion that the prevalence of tuberculosis and the death rate from it are entirely different values and cannot be used as if they represented approximately the same thing

Children in Tuberculous Families—Braeuning and Hollmann present evidence that it is possible to protect young children against infection from open tuberculosis in the homes of the poor The infant mortality at Stettin 1911-1919 was 17 per cent while it was this same figure among ninety-nine infants in poor families with open tuberculosis under the supervision of the tuberculosis dispensary workers The training to avoid droplet contact and dust infection has evidently borne fruit

Thoracoscopy—Unverricht's experimental and clinical research has demonstrated that the character of a pleural effusion must be ascertained before attempting to destroy adhesions with the thermocautery or otherwise When the effusion shows increased numbers of neutrophils the attempt had better be abandoned as the pleura is unable to cope with the bacteria released by the endopleural cauterization No other type of effusion forbids it He used Jacobæus' endoscope and thermocautery both introduced into the interpleural space inside a trocar Adhesions taken from seven cadavers showed no signs of large blood vessels or lung tissue, even in fibrous bands up to 1 cm thick In four of his ten cases the procedure was a success breaking up the adhesions and allowing complete pneumothorax In four other cases the adhesions were not thoroughly destroyed although clinically the procedure has been a success in one case and roentgenologically in all In two cases he failed to sever the adhesions A subcutaneous emphysema was a frequent complication and in three cases a serous effusion followed A broad fibrous band can be mobilized under thoracoscopy by extrapleural resection of the portion of rib to which the adhesion has grown This was done in one case with good effect releasing the collapsed lung from traction by the stout adhesion that fastened it to the wall of the chest

Zeitschrift fur urologische Chirurgie, Berlin

June 12 1922 9 No 3

Pneumoradiography of Bed of Kidney H Boeminghaus —p 51
*Congenital Anomalies in Posterior Urethra A Glingar —p 75
Tuberculosis in Congenitally Abnormal Kidney Two Cases H Reil —p 82

Surgical Import of Duplication of Ureter and Pelvis I Hryntschak. —p 87
Laceration of Inferior Vena Cava P Rosenstein —p 102
Case of Leukoplakia of Kidney Pelvis L. Kraul —p 117

Congenital Bands and Valves in the Posterior Urethra—Glingar's patient had had difficulty in micturition and dull pains in the perineal region for some years, for which no explanation was evident At the age of 40 a congenital band was discovered and severed, evidently a congenital anomaly A second case was recently encountered, the young man applying for relief from urethritis, in which no gonococci could be discovered His disturbances dated from two years before Gradual correction of the anomaly under urethroscopy is advised as incontinence has been known to follow excision of a valve formation of this kind

Zentralblatt fur Chirurgie, Leipzig

April 15 1922 **49** No 15

Peculiar Affection of Metatarsus K Vogel —p 505
Gastro Enterostomy or Resection in Gastric Ulcer Hohlbaum —p 508
Treatment of Ankylosis of Flexed Knee Stracker —p 509
The Rubber Drain in Surgery of the Bile Ducts Hubsch —p 515
Jejunal Ulcer After Pyloroplasty (Eiselsberg Doyen) Galpern —p 519
Anomaly of Testis in Partial Descent, Operative Use of the Anomaly Comment H Hilarowicz —p 521

April 22 1922 **49** No 16

*Transplantation of Testes E Kreuter —p 538
*Median Prostatectomy J Oehler —p 540
Unsuccessful Trials with Alloplasty in Vascular Wounds H F O Haberland —p 542
Hexamethylenamin in Pyonephrosis H Harttung —p 543
*Dosimetry in Roentgentherapy K Fritsch —p 545
Gritti s Amputation F Bahr —p 546
*Resection of Bone to Remedy Finger Contracture Eckstein —p 547

Transplantation of Testes in Relation to Homosexuality—Kreuter relates his experience with the transplantation of half of a testis taken from a confirmed homosexual pervert in the prime of manhood It was implanted in a man who had undergone bilateral castration two years previously, but whose general health was good The patient was not aware of the origin of the testis implant The patient recovered normally from the operation Eight months later he expressed himself as "satisfied" with the results of the operation He has occasional erections, but insists that the penis is becoming constantly reduced in size His sexual instincts have remained heterosexual There is not the slightest indication of any homosexual effect resulting from the implantation, as might be expected from Lichtenstern's statement that he has cured homosexual patients of perverted sexual instincts by implantation of heterosexual testes Owing to such reports it has been concluded by some that sexual tendencies might be associated with certain cells of the interstitial gland Kreuter thinks his operation as above cited contradicts this theory In fact, he holds that the transplantation of testes with a view to incorporating a truly functioning endosecretory organ in man is scarcely justifiable As a suggestive measure it may, in some cases, accomplish something

Median Prostatectomy—Oehler states that the unfa[vorable] conditions for drainage after suprapubic prost[atectomy] induced him to try median prostatectomy as recon[structed] by Berndt and Praetorius in 1914 and 1918 and sin[ce] was pleased with the simple technic (which he descr[ibes] detail) and the unusually slight shock from the op[eration] Although the method has not as yet found general acce[ptance] among surgeons, Oehler thinks it certainly deserves [attention] by all The problem of gravity drainage of the pr[ostatic] cavity is solved by this method [with] most excellent resu[lts]

Present-Day Dosimetry in Roentgen Irradiation on Tumor Cells—Fritsch sets forth t[he] present-day dosimetry is based [on the fact] that tu[mor] cells are killed by roentgen rays [while] their ca[pacity] ity to multiply is destroyed, that [this] immediate effect on the tumor cel[l] however, would seem to indicate t[hat] upheld and that the effect of roentg[en] rays strengthen the local tiss[ue] dy set in against the action of [the] increase or accentuate the defense measures of the organism If this assumption should be confirmed, dosi[metry] must be put on an entirely different basis, for in that c[ase] it is not a question of killing the tumor cells but of di[rect]ing in each case the stimulation that is necessary in to secure the most favorable reaction It is not so statistics as it is serious research that is needed to solve t[he] problem, and thus give to roentgentherapy an es[sential] impetus

Shortening the Bone to Remedy Finger Contracture Eckstein during recent years, has given up trying by [operative] tive efforts to lengthen and mobilize the shrunken soft pa[rts] but endeavors instead to restore the normal proport[ion] between the bone and soft parts by resecting from t[he bone] of the first phalanx a piece of bone from 1 to 2 cm The operation is carried out under local anesthesia by incision alongside of the extensor tendon, and the result that the finger can then always be extended without difficul[ty] since the flexor tendon though impaired sufficed for t[he] purpose The cicatricial tissues of the flexor tendon assum[e] the function almost as well as if a normal tendon we[re] present He thinks the method might perhaps be applicab[le] to Dupuytren's contracture, although he has never tried himself

Zentralblatt fur Gynakologie, Leipzig

April 15 1922 **46** No 15

*Prevention of Puerperal Fever F Ahlfeld —p 562
Buccal and Rectal Bacteria in the New Born R Salomon —p 563
Origin of Cavities in Human Ovum Comment Temesvary —p 567
Uterine Carcinoma in Pregnancy Childbirth and Puerperium E [Gross] Gross —p 567
*Rectal Injuries After Radioactive Treatment W Kolde —p 576
*Nucleic Acid in Puerperal Infection J Hofbauer —p 580

Prevention of Puerperal Fever—Ahlfeld reports t[hat] without using rubber gloves without employing rectal exam[ination] nation without restricting internal examinations w[ith]out omitting preliminary vaginal lavage, and although pati[ents] were continually examined by students they were able t[o] get excellent results from the standpoint of mortality fo[r] out of 8753 patients only one died of puerperal fever [after] preceding normal birth This one fatal case dou[btless] resulted from self-examination or evolved from an e[arlier] internal affection Ahlfeld gives this report to show [that] good results can be secured without resorting to the extre[me] precautions recommended by Doderlein

Treatment of Rectal Injuries After Radiotherapy—Kol[de] describes two cases of injury of the rectum from radioact[ive] treatment In one case there was ulceration in the rectum, in a second case a very large defect of the rectum with a fistula into the vagina To combat the rectal ulcer, he employed starch enemas with from 10 to 20 drops of opium, also diathermy the positive electrode in the vagina, the neg[a]tive over the sacrum Under this ambulant treatment, grad[u]al improvement was noticeable Organotherapy was also used The rectal ulcer healed but the patient still complai[ned] of weakness In the second case, after pursuing a waiti[ng] policy for so[me] time he at last constructed an artificia[l] anus in the [sig]moid The results were good and the pa[tient] covered her weight and strength Kolde [re]proaches h[im]self for that two years before, on appe[ar]ance of the [rectal] injuries he did not employ dia[ther]my to c[ombat] fibrosis secondly he admits that it [was] technic[ally] his par[t] at he did not do a sig[moid] omy [when] the f[irst] developed He would say [that] two years of illness and H such conditions not w institute curative

[Hofb]auer extols the [effect] The effect is [from] ary extracts